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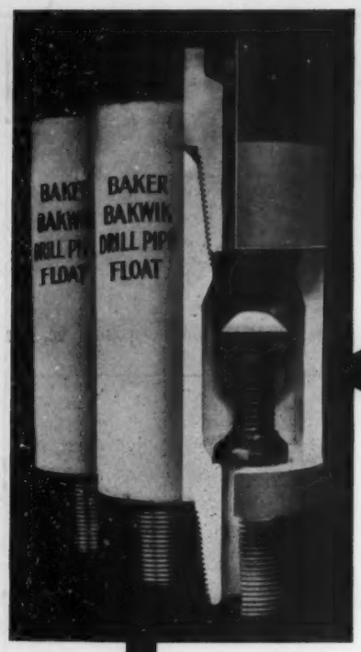
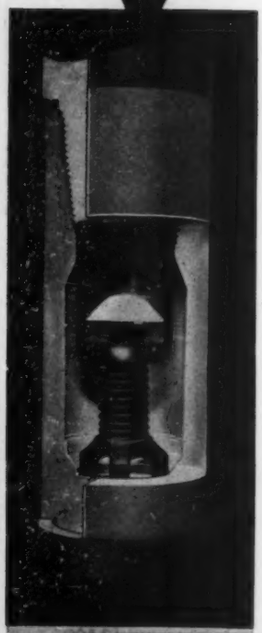
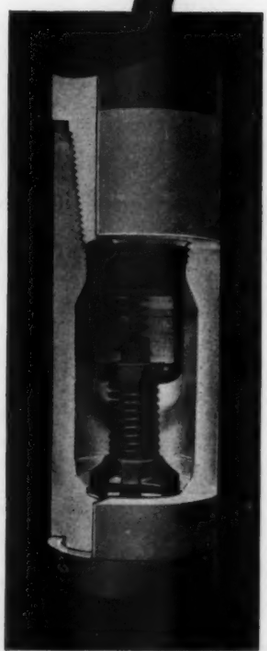
HERE'S A NEW ROAD TO SAFETY and Efficiency in Handling Long, Heavy Strings of Drill Pipe



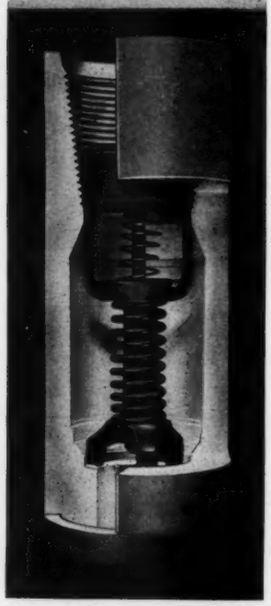


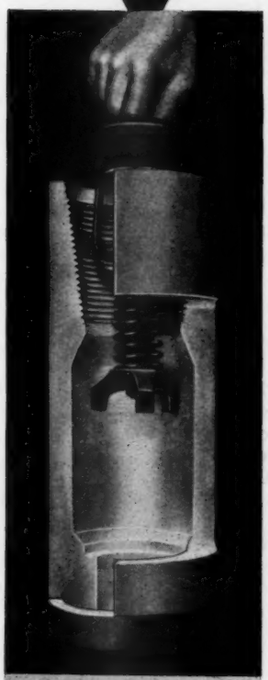
The Baker "BAKWIK" Drill Pipe Float is pictured just above as it appears in the drilling string when the pumps are operating. Pressure unseats the conical valve, leaving a large, stream-lined passageway which cannot restrict circulation. Long life is assured by correct design, and by construction from abrasion-resisting materials. And now, let's stop the pumps and . . .



• instantly the valve is closed upward against its seat by the upper valve spring, to provide a leak-proof seal against back-pressure. Note how the tool joint pin compresses the lower cage spring which forces the valve assembly upward to seal against a rubber seal. And now, let's come out of the hole . . .

• remove the tool joint pin, and relieve the compression on the heavy, lower cage spring. This view of the "BAKWIK" Valve Assembly in released position clearly shows the absence of all threads, and how the assembly stands on a strong shoulder, so that when the tool joint above it is removed we can . . .





• simply lift out the valve assembly by hand and leave a full opening through the float joint. For this reason it never is necessary to remove the complete "BAKWIK" Body — the length of the drilling string is never altered — no chance exists to make errors in measurement. Why not travel the "Road to Safety and Efficiency" with a Baker "BAKWIK" Drill Pipe Float, which will . . .

- reduce the weight on derrick and rig equipment
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- eliminate necessity for a stop-cock
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SEE OUR DESCRIPTIONS IN THE COMPOSITE CATALOG

Production Branch of the Industry Continues to Do Its Part in the Effort at Stabilization

By JAMES McINTYRE

OKLAHOMA, Kansas and California assisted in the production curtailment program in the past week by collectively cutting production 52,220 bbls. per day. California's production was lowered 20,500 bbls. per day and that of Oklahoma 24,665 bbls. Altogether there was a decline of 58,622 bbls. per day in the United States, bringing production 68,000 bbls., per day, below the allotted figure set by the Government for November.

The East Texas Field continues to be the thorn in the side of the conservationists. The attitude of certain refiners and producers, and occasional decisions by Texas judges seem to work against the oil industry's effort to stabilize the business, notwithstanding the effort is backed by the powers set up by Government.

One of the benefits growing out of the recent advances in the crude oil market is that of increased employment in the field. Many owners of old oil properties are now able to improve their properties which have been permitted to run down over a long period.

This rehabilitation of old leases has necessitated the employment of more workmen and the purchase of small items of equipment with which to make replacements. Equipment companies report a noticeable increase in the purchase of such items which, while the individual purchases may be small, bulk large in the aggregate.

Old leases in limestone pools are being acidized more than ever to increase the small production of stripper wells, and cleaning out jobs and increased repressuring are helping to provide work.

The most important field news of the week comes out of Michigan where a well in the Mount Pleasant area in Midland County broke all records of the state by producing at the rate of 20,000 bbls. per day. To add to the importance of this Michigan Field, two other wells were reported as completions which showed initial productions of 7,000 bbls. and 4,000 bbls. respectively, bringing the potential production of the state up to 115,000 bbls. per day.

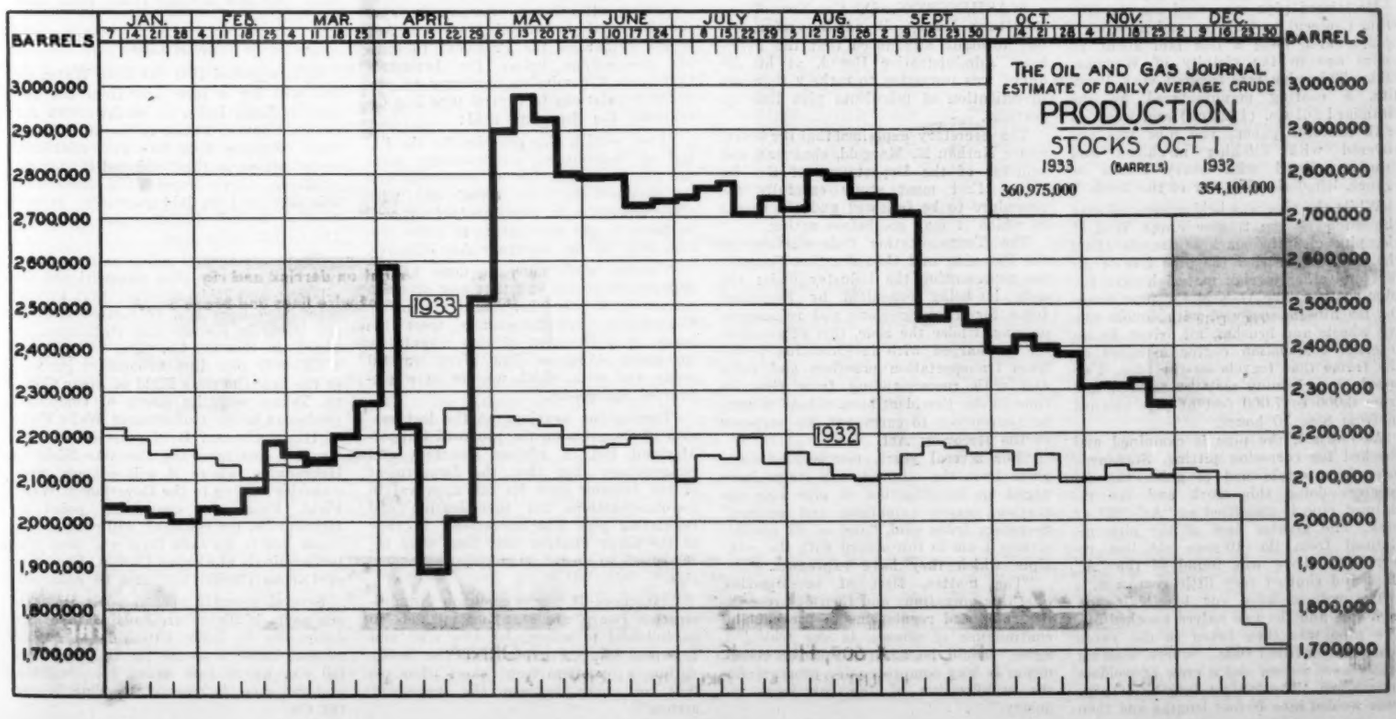
That section of East Central Texas covered by Freestone, Rains, Leon and Anderson counties, which a short time ago gave promise of being important oil country, but which later threatened to dash the hopes of oil men financially interested in it, continues to attract leasers, and operators are busy blocking out anything left over in the earlier scramble for properties. The interest in the area has reached over into Van Zandt County where a Woodbine test will be started 10 miles north of the Van Field, on an 8,000 to 10,000-acre block.

Crude Oil Production in the United States

Estimated daily average production for the week ending November 25, and a comparison with previous week and one year ago, follows:

	Nov. 25	Nov. 18	Nov. 26, 1932
Oklahoma—			
Oklahoma City	185,865	205,615	58,740
Seminole-St. Louis	104,305	107,420	106,685
Remainder of State	207,590	209,390	201,415
Total Oklahoma	497,760	522,425	366,840
East Texas—			
Lathrop	175,749	176,863	138,235
Kilgore	127,742	128,552	107,316
Joiner	113,965	114,688	114,444
Total East Texas	417,456	420,103	359,995
West Texas	121,704	121,555	165,127
North Central Texas	81,388	81,487	72,621
Texas Panhandle	40,362	39,135	45,436
East Central Texas	43,479	43,094	49,315
Gulf Coast—Texas	154,235	155,548	119,450
Southwest Texas	43,292	48,453	57,684
Total State of Texas	901,916	909,375	869,628
Kansas	116,320	123,355	102,320
North Louisiana	26,190	25,695	28,895
Gulf Coast—Louisiana	47,437	48,245	34,793
Arkansas	33,325	32,875	33,885
Eastern Fields	123,000	122,500	120,000
Rocky Mountain area	80,920	80,520	74,911
California—			
Santa Fe Springs	34,750	39,000	57,250
Long Beach	55,000	59,500	69,000
Playa Del Rey	8,400	8,750	13,500
Elwood	12,750	12,100	13,000
Kettleman Hills	30,250	53,000	63,000
Remainder of State	301,850	291,150	255,250
Total California	443,000	463,500	471,000
Total United States	2,269,868	2,328,490	2,102,272

Decrease 58,622 Bbls. Daily.



Demand for Kansas-Oklahoma Crude Causing Expansion of Several Pipe Line Systems

By L. G. E. BIGNELL
Petroleum Engineering Editor

Several conditions have developed within the past six months to cause pipe line companies throughout the Mid-Continent area to seek additional connections to wells in all fields. One factor is the allocation of a fixed share of the nation's demand for crude oil to each of the oil producing states. The December crude oil production has been cut by Federal order to 2,210,000 bbls. a day, a reduction of 128,500 bbls. from the November daily allowable, or 5.5 per cent less.

Reduction of available oil has placed additional burdens upon pipe line companies in meeting their customers' orders and it is found that to meet these new conditions many oil transportation companies have extended their lines to reach other oil fields. While these lines have been less than 100 miles in length each, the total number of them has given employment to several hundred men and resulted in the use of considerable new material. For the most part the reclaimed pipe has been used for this work. Taking up old lines and cleaning the pipe has developed into a well established technique that is worthy of special consideration.

Line to Crescent Pool

The Stanolind Pipe Line Co. has extended some of its lines in Oklahoma and Kansas. The development in the Crescent Field, Logan County, Oklahoma, indicates that this new pool will produce a considerable quantity of oil and the Stanolind Pipe Line Co. has therefore laid an 8-inch line from its main line near Cushing, about 42 miles east of Crescent to that field.

This work was contracted by Williams Brothers of Tulsa and is a welded line and has given employment to about 300 men along the right of way in addition to the men needed to take up the pipe, clean and recondition it and truck it to the new location.

Reclaimed pipe was used on the line from Crescent to Cushing and most of it was secured from a line laid about 10 years ago in the vicinity of Wewoka, Okla. This pipe was covered with Parolite, a coating manufactured by the Standard Oil Co. (Indiana) and wrapped with asbestos paper. The pipe was uncovered with ditching machines and tractors, fitted with heavy booms or cranes, lifted the pipe out of the ditch.

While the pipe was held suspended over the ditch by the tractor crane W-K-M Co. pipe cleaning machine travels along the line and brushes the pipe free of all dirt and other foreign material, even the pipe coating. The W-K-M Co. pipe cleaning machine is equipped with double cutter wheels and brushes, all driven by an internal combustion engine mounted on the frame that travels on the pipe. Two speeds for cleaning may be secured and from 6,000 to 7,000 feet of pipe cleaned in from 8 to 10 hours.

As cleaned, the pipe is examined and checked for corrosion pitting. Standards have been established to guide the inspectors doing this work and the reclaimed pipe is classified as "A," "B" or junk. The greater part of the pipe reclaimed from the 10-year old line referred to above was found of the "A" class and showed very little corrosion.

The collars were cut lengthwise on each side and the two halves knocked off. The pipe was then taken to the yards near Holdenville, Okla., where welding tables were set up and a crew of welders maintained. The 20-foot lengths of pipe were welded into 40-foot lengths and then hauled to the new location. The threaded ends of the pipe were cut off before the joints were welded together. The pipe is joined together by welding before it is put in the ditch for the new line.

In some instances it has been found that it is satisfactory to cut away every other collar while the pipe is over the ditch, and then to weld the collar between joints to be certain that it is tight. The threaded ends of these 40-foot joints are cut off and the pipe joined together again by welding at the new location.

This class of work will probably be continued by many companies reclaiming old, short lengths of line that are no longer needed and using the pipe for lines to active fields. The new lines would not justify the investment in new pipe and equipment, but there is need for the oil and to secure it the reclaimed pipe is serving its purpose.

Other Oklahoma Lines

The Oklahoma Pipe Line Co. has just completed about 54 miles of line between Cushing and Crescent, Okla. Ten miles of this line is 6-inch pipe and 44 miles 8-inch. At a point about 13 miles east of Crescent an 8-inch line will be laid from the Cushing-Crescent line to the Lucien Pool, south of Perry, Okla.

All of the pipe used in these lines has been reclaimed from old lines laid in Kansas. The pipe was laid in 1918 and out of 66 miles reclaimed, 55 miles has been classified as "A" grade pipe and only 2 miles rejected as junk. The other 9 miles was considered "B" class pipe and is suitable for use under certain conditions when properly coated. This pipe was not coated with any kind of protective coating when first laid.

The Oklahoma Pipe Line Co. is also laying about 10 miles of 4, 6 and 8-inch pipe line from the Tatum Pool, in southern Oklahoma, to connect with its station at Graham, Okla. This new system will gather oil from the Tatum Pool and deliver it to Graham station using a 100 horsepower Fairbanks-Morse oil engine, with reciprocating pumps.

It is reported that the Continental Oil Co. will run a line from their well in the Crescent Field, Logan County, Oklahoma, to tap their pipe line extending from Oklahoma City to Ponca City and passing to the east of the Crescent Field. This branch line will permit the direct handling of the oil produced by the Continental Oil Co. in Crescent Pool to their refinery at Ponca City, Okla.

Kansas Lines

The Stanolind Pipe Line Co. will soon start a line from its present pipe line serving Ellis and Barton Counties, Kansas, to the Russell Field, Kansas. This line will be 6-inch diameter and about 52 miles long. The contract has been let to Kelly Demsey Co.

New pipe line work in Kansas and Oklahoma has resulted in the employment of hundreds of men and they are all working under NRA code regulations. Some contractors are working their men seven days per week, one gang working five hours each morning and another gang working five hours each afternoon. In this way the 35-hour week is maintained, but it presents a problem of keeping a camp large enough to accommodate all of the men, for they are off work 19 hours each day and they all work during the day time only.

A number of other short lines were recently laid. The Sinclair Prairie Pipe Line Co. completed a 6-inch line from a point a few miles out of Florence, Kans., and extending 22 miles toward Potwin, Kans. This is a welded line and forms a loop in an existing system.

The Skelly Oil Co. will shortly start laying pipe for an extension from the western terminal of their pipe line from Eldorado to Burrton, Kans., to serve the new Cunningham Pool district in Kingman County, Kansas. The new line will consist of about 24 miles of 8-inch laid due west from Burrton to a point north of Partridge, and from there about 30 miles of 6-inch line southwest to the Cunningham Field. This will be a new pipe and welded line.

It is planned to install a pipe line station at the Cunningham terminal that will be powered with gas engines driving reciprocating pumps. This type of equipment will probably be selected because the Skelly Oil Co. has a natural gasoline plant at Cunningham and ample supply of residue gas will be available. The one pump station will be sufficient to serve the present line requirements because the gradient of the pipe line is down hill to Burrton from a point a few miles northeast of the Cunningham pump station. Later stations will be required at Partridge and Burrton but this need is some time in the future.

The White Eagle Refinery Co., Wichita, Kans., will lay a new line to Chase, near Raymond, Rice County, Kansas, to secure oil from that area. This line will be either a 6 or 8-inch extension from their line now serving Holly Pool, Kansas.

Texas Line

It is reported that the Tide Water Oil Co. will lay a pipe line from the new pool at Long Lake, in southwestern Anderson County, Texas, to the Gulf Coast. This company now has two additional wells drilling in this field and if they are producers there seems little doubt that this line will be laid promptly. It will be 8 or 10-inch diameter pipe and from 115 to 125 miles long.

There are several old pipe lines being reclaimed and the pipe reconditioned for relaying and it is reported that several other pipe lines will be started soon to tap fields in Kansas and Oklahoma. In Texas the Sun Oil Co. plans to construct a 125-mile pipe line to connect its well in the new Cuevitas Field of Starr County, Texas, with its group of completed producers in the Government Wells Field of Duval County. It is proposed to construct a line from the Cuevitas Field to Hebronville, where it will connect with a carrier leading to the Government Wells Field. From the converging point at Hebronville, the company will construct a trunk line to its tank farm and deep water terminals at Corpus Christi. Facilities at Corpus Christi will also be enlarged.

Several recently opened pools in various parts of Texas are causing pipe line companies to make extensions of their present lines to secure the oil. The Sun Oil Co. has a line under consideration and the same is true of the Tide Water Oil Co.

Investigation of Pipe Line Operations Considered By Oil Administrator

WASHINGTON, D. C., Nov. 27.—Secretary Ickes, oil administrator, today formally announced that the Petroleum Administrative Board, at his request, was preparing to make a thorough investigation of petroleum pipe line operations.

The Secretary explained that the board, under Nathan R. Margold, chairman, and solicitor of the Department of the Interior, first must study carefully the procedure to be followed and the extent to which it may go, before acting.

The Transportation Subcommittee of the Planning and Co-ordination Committee representing the industry under the code is being consulted by Secretary Ickes for its suggestions and recommendations. Under the code, this subcommittee is charged with investigating petroleum transportation practices and rates and with recommending from time to time to the President such action as may be appropriate to carry out the purposes of the Recovery Act.

"For several years, members of Congress from the oil-producing states have urged an investigation of pipe line operations, rates, valuations and service," Secretary Ickes said, "and as oil administrator I am in full accord with the principle which they have expressed.

"The matter, first of investigating pipe line operations and then of prescribing rules and regulations to prevent the continuance of abuses, is one which, I agree, should be accorded proper recognition in any comprehensive program for the stabilization of the petroleum industry."

Calling attention to Section 9(a) of the National Industrial Recovery Act, which authorizes the President to initiate proceedings before the Interstate Commerce Commission necessary to prescribe regulations to control pipe line operations, the Secretary said:

"That section also provides for the fixing of 'reasonable, compensatory rates for the transportation of petroleum and its products by pipe lines,' and with these objectives in view, proceedings will be taken in the near future to make Section 9(a) of the Recovery Act effective.

"Careful work must be done by the department to the end that any program presented to the Interstate Commerce Commission will adequately meet the needs of a situation of this magnitude, to which Congress has given careful study and with which we are in wholehearted agreement.

"During the hearings at the last session of Congress on the proposed Capper-Marland bill, I advised senators and congressmen then that the Department of the Interior gave its full approval to recommendations for investigating and regulating pipe line operations, in view of the many charges that they were being used to foster monopolistic tendencies.

"Attorneys of the Petroleum Administrative Board are studying methods to be followed to accomplish this aim, and I expect that a report will be ready within a comparatively short time so that we may initiate the necessary action."

Oil Industry Should Use the Code to Establish Solid Foundation for Future Operations

By ANDREW M. ROWLEY

WASHINGTON, D. C., Nov. 27.—The petroleum industry as a whole does not as yet fully realize the wonderful opportunity it has now under the NRA and the code for the business to correct the many evils which have beset it in the past. For years it has been contended that if it were not for the Sherman antitrust law and other handicaps which prevented full and free discussion of problems and conferences on matters of vital concern to every oil man, most of the troubles of the business could be settled quickly and equitably.

Not only have these handicaps now been removed but agencies of the Government have been set up to aid oil men to do the very things they long have wanted to do. Why not take advantage of the situation quickly? The question of government control or regulation is not involved. No one in the business wants government control in any shape or form but it is like cutting off the nose to spite the face not to avail one's self of the chance to settle many of these problems once and for all and do it legally, with the consent and co-operation of the Federal Government, and with the backing and help of the governmental agencies established for this purpose.

Regulations and orders issued under the code and the NRA have the full force and effect of law. Violations of these regulations can be prosecuted and a legal staff of competent attorneys, most of them familiar with the petroleum industry, has been set up to enforce provisions of the code for the business and to prosecute violations.

For years fear of prosecution under antitrust laws has prevented oil men from getting together and discussing frankly and openly the problems of the industry and ways these problems might be solved. Control of crude oil production and refinery manufacture have been among the problems.

Orders Are Law

Now these matters have been taken care of in regulations and orders issued under the authority of the code, and after consultation with oil men and upon the recommendation of oil men. And these orders have the full effect of law and violations can be prosecuted.

The petroleum industry is operating under the code. It should use now, and for the duration of the code, every provision of these regulations which will benefit it as a whole, and which will aid it in putting its house in order and establishing a solid foundation for future operations. Any other course at this time seems narrow-minded and utterly lacking of sound business judgment.

Take advantage of the opportunity now presented and utilize it to the greatest extent. Get all the benefits possible from this co-operation and backing of the Federal Government and settle these problems of production, price cutting and different unethical practices which have caused so much trouble in the past.

The stage is set. The authority is available. The Government, acting through Harold L. Ickes as oil administrator, will co-operate to the fullest extent. All that is necessary is for those most vitally interested and those who will be benefited to the greatest extent—the oil men, big and little—to snap out of the lethargy which seems to have enveloped them and to take an active part in the movement to stabilize this business and permit everyone to make a reasonable profit.

No other industry in the United States has taken this matter of operation under the code as seriously as have leaders of the oil business. Since being in Washington I have had office furniture salesmen, telegraph messenger boys, office building managers and others say: "Gee! The oil business is going about this thing in a big way. Such and such an industry has only one small office to handle its affairs. The oil industry has a whole floor and those fellows up there sure work late at night."

And "those fellows" are up there working late at night handling your problems. All you have to do is to check the personnel of that group to know they are a mighty good cross-section of the industry and one that has every interest at heart. Never before in the oil business has the little man such a representation at court as he has now.

Wirt Franklin, of the Wirt Franklin Petroleum Corporation, of Oklahoma City, Okla., is chairman of the Planning and Co-ordination Committee, the oil men's organization in this set-up under the code. For four years or more Wirt Franklin has devoted practically all of his time to trying to stabilize this business. He has fought bankers and all other interests who, under the exigencies of the occasion felt his company would make more money if other practices were followed. But Wirt Franklin has only one policy—it is that of open covenants openly arrived at—and he is following that policy now right to the letter. If the petroleum industry will go along with Wirt Franklin right now, it won't go wrong and there will not be any "gentlemen's agreements" or other generalities which might look good at the time but which might not work out as expected.

Too many people expect the petroleum industry to be changed in a day. These evils have been accumulating for years. Methods and practices which have caused the trouble have been built up over a long period of time. Give these fellows working on the problem a chance to correct them. Don't expect the millennium tomorrow. Sit tight in the boat, do your part, and don't become discouraged if you know the fellow across the street is doing something you know is wrong.

Just because the other fellow has not been stopped in his unethical or poor business practices is no reason whatever why you should abandon your efforts to stabilize this situation. It takes time to get around to each of these cases. You go along with the code and its provisions and report violations. These violations will be taken up and considered and prosecutions instituted just as quickly as those in charge here can get around to them. There are a lot of practices which are gumming up the situation. But it most certainly will not help conditions for others to start to indulge in such practices. Go along as the code provides, report violations and give active support to the efforts being made to stop all these violations. It won't take long to weed out those whose practices might wreck the industry. There won't be any fooling on the proposition of putting such persons out of the business. Just remember it takes time, and while you may suffer in the meantime, you are doing your part and you only will delay ultimate settlement of the difficulties if you join the violator in his practices.

Operate on Higher Level

For years I have advocated higher prices throughout every branch of the petroleum industry. Officials of big companies have criticized me and said "Andy, you are all wet. We have to meet the prices being offered by producers and refiners who have only a small part of the business as a whole but whose sales do determine the market." I could never see the point. I still contend the oil business can be conducted on a base level of $2 a barrel crude just as well as it can on 50-cent crude. Put the whole price structure in balance and operate on the higher level and let everyone—little and big—get a living price for his product.

Now the business has the opportunity to do just that. The time has come and the opportunity is here to get hard-boiled with those fellows who will not go along and who, through selfish interests believe they are forced to sell their products below generally posted prices. And don't let anyone mislead you with the contention you can not get higher prices because the public and the administration will not stand for higher prices at filling stations. Such a contention is based on ignorance and it is part of every oil man's duty right now to educate the public, which is the consumer, to the fact that he is paying less for gasoline now TO THE OIL COMPANIES than he paid for years and his whole trouble is the fact he is paying far more in taxes than he ever paid before.

Get that tax angle across to the public. Get a copy of The Oil and Gas Journal of September 7, 1933 (page 11) which proves, through government figures that the average price paid at the filling station for gasoline for 20 years from 1913 to 1932 inclusive was 21.5 cents per gallon with an average tax during that period of 2.12 cents per gallon, a net to companies of 19.38 cents per gallon while the price paid on September 1 of this year was 19.64 cents a gallon at the filling station and that included an average tax of 5.64 cents a gallon, or net to the companies of 14 cents a gallon.

Get the point? Companies producing crude oil, transporting this to refineries, manufacturing this crude into gasoline and distributing this necessary product to filling stations—all involved in this business got a net of 14 cents a gallon on September 1 of this year as compared to an average receipt of 19.38 cents a gallon for 20 years from 1913 to 1932 inclusive. Where do they get this idea the public is being gouged or that higher retail prices at filling stations are not justified?

Now is the time for the entire petroleum industry to awaken; to take advantage of those provisions of the code which permit and facilitate the solving of problems which have perplexed and caused the industry so much trouble in the past; to educate the public as to the real situation and the fact gasoline prices are the lowest of all commodities (see The Oil and Gas Journal, September 28, 1933, page 13 and The Oil and Gas Journal, October 5, 1933, page 9); to co-operate with the Planning and Co-ordination Committee here in Washington which has the interest of every oil man at heart and is doing everything in its power to stabilize this industry; and to sit tight in the boat and not indulge in practices which might be followed by the man across the street who has not as yet been reached by the agencies of the committee or the Federal Government who, eventually, will stop his methods which hold back recovery and progress of the industry towards stabilization.

Expert Legal Staff Named

Strict enforcement of the oil code's provisions affecting the production and marketing have been set forth by Secretary Ickes, oil administrator, as the major objective of the Department of the Interior. The Secretary announced creation of an expert legal division for field and headquarters work in connection with enforcement, to be under the direct supervision of the Petroleum Administrative Board, of which Nathan R. Margold, solicitor of the Interior Department, is chairman.

"As rapidly as this organization can be perfected, enforcement will be actively prosecuted in the courts where necessary," Secretary Ickes said, "in collaboration with the investigation division of the Department of the Interior under Louis Glavis. Mr. Margold and the legal staff will give special attention to violations of marketing sections of the code, reported by the industry and by the Division of Investigations, such as cut-throat competitive underselling and other abuses that, if permitted to exist, would be destructive of the oil industry. They also will take energetic and immediate steps to prosecute all violators of the hot oil regulations."

Chairman Margold and Charles Fahy, first assistant solicitor of the Department of the Interior and vice chairman of the Petroleum Administrative Board, said the necessary administrative and enforcement machinery would be ready to function within a very few days. Mr. Margold, Mr. Fahy and Norman L. Meyers, assistant solicitor of the

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Government Issues Order Allocating Gasoline Production and Stocks in Refining Areas

By ANDREW M. ROWLEY

WASHINGTON, D. C., Nov. 25.—An important step towards stabilization of the petroleum industry was taken here this week when an order was issued allocating gasoline manufacture and inventories for the various refining districts in the United States for the months of November and December. This is the first time such action has been taken.

The objective of the order, which has the effect of law under the code, is that stocks of gasoline at refineries, in bulk

B. L. MAJEWSKI

President, Illinois Independent Oil Men's Association, member of the Planning and Co-ordination Committee.

terminals, in transit and in pipe lines but not including unblended natural gasoline at refineries or in the field, for the entire United States shall not exceed 52,500,000 bbls. on March 31, 1934. Additional orders will be issued from month to month until that date as further steps in carrying out this determination to hold gasoline manufacture to prescribed quantities and to bring inventories within the total figure set for March 31.

In order not to work a hardship on refiners because of the short period remaining in November, the report really combines figures for November and December, they being tied into the total stock figures for December 31 with the expectation that excesses of November would be taken care of in the stock figures for the end of December.

To Avoid Excessive Stocks

Excessive gasoline stocks on April 1, the beginning of the main consuming season, have always weakened the gasoline price structure, with a resultant menacing effect upon the crude oil market. Despite a realization of this fact by refiners throughout the country and long experience which proved distress and unprofitable prices were the inevitable result of piling up burdensome stocks which must, in many instances, be "dumped" regardless of price, the industry for years has started its period of greatest gasoline sales under the handicap of too much gasoline in storage and losing prices. The big object of the present order is to prevent that situation from undermining stabilization at the beginning of the main consuming season next year.

The ultimate desire of those working here with the Planning and Co-ordination Committee, the Petroleum Administrative Board and the oil administrator, is to tie in crude oil production, crude oil stocks, crude oil withdrawals from storage, gasoline manufacture and gasoline inventories into one co-ordinated unit to bring about stabilization of the industry and its markets and prevent distress prices which, in the past, have brought the business to the brink of chaos and resulted in enormous losses to all companies, large and small.

Gasoline stocks on March 31, 1933, based on the same method of computation (natural gasoline stocks being omitted from the figures) were 57,000,000 bbls. and were 63,700,000 bbls. on March 31, 1932.

Allocations by Districts

It is hoped to break up the 52,500,000 bbls. of stocks set for March 31, 1934, into district allocations in such proportion that the stocks in each district then will be related properly to the stocks in each other district. Such an allocation will bring about a proper relationship of the stocks of one district with those of each other district.

If an ideal condition obtained and all the refinery districts on September 30 had what would be considered economic minimum stocks there would have to be added to storage during the six months from September 30 to March 31 a quantity of 10,000,000 bbls. of gasoline. In other words, refiners during this period add to stocks. If these additions just balanced the greater sales during the main consuming season, an ideal picture would be presented. However, on September 30 of this year the industry had a surplus of 10,000,000 bbls. of gasoline stocks. Efforts now are being made through the order just issued and subsequent orders to be issued to liquidate some of this surplus and bring the industry and its gasoline inventories into balance by March 31.

Percentage Ratios Announced

Under the code, Harold L. Ickes, oil administrator, issued an order dividing the United States into refinery districts and announcing percentage ratios for each district for gasoline inventories to total sales for each district during the year ending September 30. The Planning and Co-ordination Committee, acting under authority granted it in an order signed by the oil administrator October 18, translated these percentages into gallonage and recommended the quantity of gasoline to be manufactured by each district. This section of the code follows:

"Pursuant to Article 4 of the code of fair competition for the petroleum industry, the country will be divided into proper refining districts by the Federal Agency, and both the existing ratio of gasoline inventory and sales thereof for each such district and the proper relationship between such gasoline inventories and sales thereof for each such district will be determined.

"The Planning and Co-ordination Committee is hereby authorized, pursuant to Article 4 of said code, to recommend to each and every refiner in the United States gasoline inventories, current runs and/or gasoline manufacture required to maintain proper gasoline inventories in each district as hereinbefore determined, and said committee is further authorized to make use of such associations, regional or other committees, or other agencies as it may deem proper to determine such recommendations and secure compliance therewith.

"In order that the storage of gasoline may be limited to a quantity not in excess of that required to meet the variation resulting from seasonal demand and to provide for the necessary fluctuations in working stocks, upon the approval of such recommendations by me it shall be an unfair trade practice in violation of Section 4 of Article 4 of the aforesaid code for any refiner to exceed such recommended runs and/or gasoline manufacture."

Resolution of P and C. Committee

The resolution of the Planning and Co-ordination Committee with respect to

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Conferences in Progress Seeking Agreement on Basis of Schedule Offered for Dec. 1

By ANDREW M. ROWLEY

WASHINGTON, D. C., Nov. 27.—Conferences, which began in New York last Wednesday, are still being held in an effort to formulate a plan of volumetric control of crude oil and gasoline which would take the place of the proposal to have the Federal Government establish minimum prices. Consideration is being given every angle of the situation including production of both crude oil and gasoline, inventories and ways and means of taking care of surplus or distress quantities of crude or gasoline which might at times threaten the stability of the market.

While it is too early to determine whether a plan, satisfactory to all concerned, can be formulated, hope is expressed that the different views can be incorporated into an agreement which will have the approval of both sides of the question as to whether the Government should establish minimum prices. There is absolute agreement on one subject, that the industry as a whole is opposed to government control in any shape or form.

The conferences now being held will either result in a definite plan to stabilize the markets or hearings on the Government's proposal to establish minimum prices will start December 5. The Planning and Co-ordination Committee under the code for the petroleum industry is prepared to go ahead with these hearings and they believe they have sufficient data to bear out their contention such minimum prices will correct most of the existing evils and will permit the business to get on its feet quickly. One large refiner and marketer in North Texas has submitted a report showing that his company lost 34 cents on every barrel of crude run through the refineries in 1932 and showing that the minimum price schedule as proposed would permit this company to operate at a reasonable profit.

Plan Will Be Definite

The hearings on the price schedules are not definitely sidetracked. If the opposing elements on the question can get together on a plan which will accomplish the same results, that plan will be tried out in preference to the proposal of having the Federal Government establish minimum prices, but if such a plan cannot be formulated, the hearings will be held and every effort will be made to have the Government fix minimum prices. And, any plan adopted must be definite—everyone agreeing to it must sign on the dotted line. There will be no hedging and the plan will be submitted to Harold L. Ickes, oil administrator, who will be asked to make it an official order.

The entire petroleum industry is vitally interested in this matter of price control. It can be assured this control will be exerted either through a Federal government order or as the result of a definite agreement upon the part of oil companies to a plan which will accomplish the same purpose. Reasonable prices are going to be maintained and anyone who thinks differently is just going to be out of luck. Oil men throughout the country should plan their operations for the future on the basis of the prices announced in the order which would have become effective December 1. Those are cost or recovery prices and there does not seem to be any disposition whatever to change that schedule.

Living Price Necessary

Fear of government control brought together opposing elements in the price control question. They agree government control in any shape or form is not desirable. Every effort should be exerted by everyone in the business to avoid government regulation as a permanent proposition. All agree that a living price is necessary, a price which will permit everyone to continue in business and make a reasonable profit. The whole point at issue is whether this end can be accomplished through control of production and stocks or whether it is necessary to have the Federal Government establish minimum prices. Those in favor of governmental regulation of minimum prices are willing, from the standpoint of having the industry harmonious and united, to try to work out a plan which would insure fair prices without the Government establishing such prices. That is the work being done now in the conferences being held in New York.

But the entire industry should realize now, and act accordingly, the tentative prices as fixed in the order of October 16 and which were to have been made effective December 1 are not in controversy—it is just a question as to the best means of accomplishing the desired object.

Every Refiner Is Obligated to Follow a Definite Program of Gasoline Production and Stocks

By W. T. ZIEGENHAIN

The triple-objective program outlined by the Planning and Co-ordination Committee and announced this week for the purpose of stabilizing the refinery market is definite enough to be made operative at once and flexible enough to cause a minimum of adjustments. The program as approved by the administration is published in this issue on page 10 and provides for (1) maximum production of gasoline during November and December for each of the eight refining areas into which the country has been divided; (2) maximum motor fuel stocks by areas by the close of this year and (3) maximum stocks April 31, 1934.

In each of these three provisions, past experience serves as the basis for designating what shall be done. Hearings are granted in any case where the general rule works a hardship upon any individual or plant.

TABLE 1—GASOLINE PRODUCTION, NOVEMBER AND DECEMBER COMBINED

(Barrels)

	District—	Order of P. and C. Committee for 1933	Actual 1932	Change ordered
1.	East Coast	11,535,000	12,063,000	528,000 decrease
2.	Appalachian	2,660,000	2,675,000	15,000 decrease
3.	Indiana, Illinois, Kentucky	9,820,000	9,713,000	107,000 max. inc.
4.	Oklahoma, Kansas, Missouri	7,990,000	7,746,000	244,000 max. inc.
5.	Texas:			
	(a) Inland Texas	4,500,000	4,715,000	215,000 decrease
	(b) Texas Gulf Coast	10,930,000	11,321,000	391,000 decrease
6.	Louisiana-Arkansas:			
	(a) North Louisiana-Arkansas	1,200,000	1,395,000	195,000 decrease
	(b) Louisiana Gulf Coast	2,160,000	2,017,000	143,000 max. inc.
7.	Rocky Mountain	1,355,000	1,115,000	240,000 max. inc.
8.	California	10,070,000	10,566,000	496,000 decrease
	Total United States	62,220,000	63,326,000	1,106,000 decrease

Gasoline Production

It becomes obvious that if the gasoline production is controlled, price stabilization is an easy matter so long as there is an active demand. The industry has been fortunate in having witnessed a rather constant demand for its products and for that reason it is possible to outline a definite manufacturing program.

Also, if gasoline production is controlled, it will be possible to arrive at a predetermined volume of stocks with which to enter the new year. Then, if the stocks on January 1 are fixed, it will be easy to carry the plan into 1934 and to avoid excessive stocks as the major consuming season is approached.

Since the control of gasoline production is so vital to the success of the whole program, the Planning and Co-ordination Committee has evolved a plan whereby each refiner may know to a barrel how much gasoline each of his plants may make over the balance of 1933. A similar schedule will be provided for the months to follow.

By referring to the accompanying map, it will be seen that the United States is divided into eight refining areas. Every refinery in the country is included in one of these districts. Their boundaries coincide with those designated in the monthly Bureau of Mines reports, so it is not difficult to study "past performance." Part of the data compiled monthly shows the volume of gasoline shipped out of each of these districts.

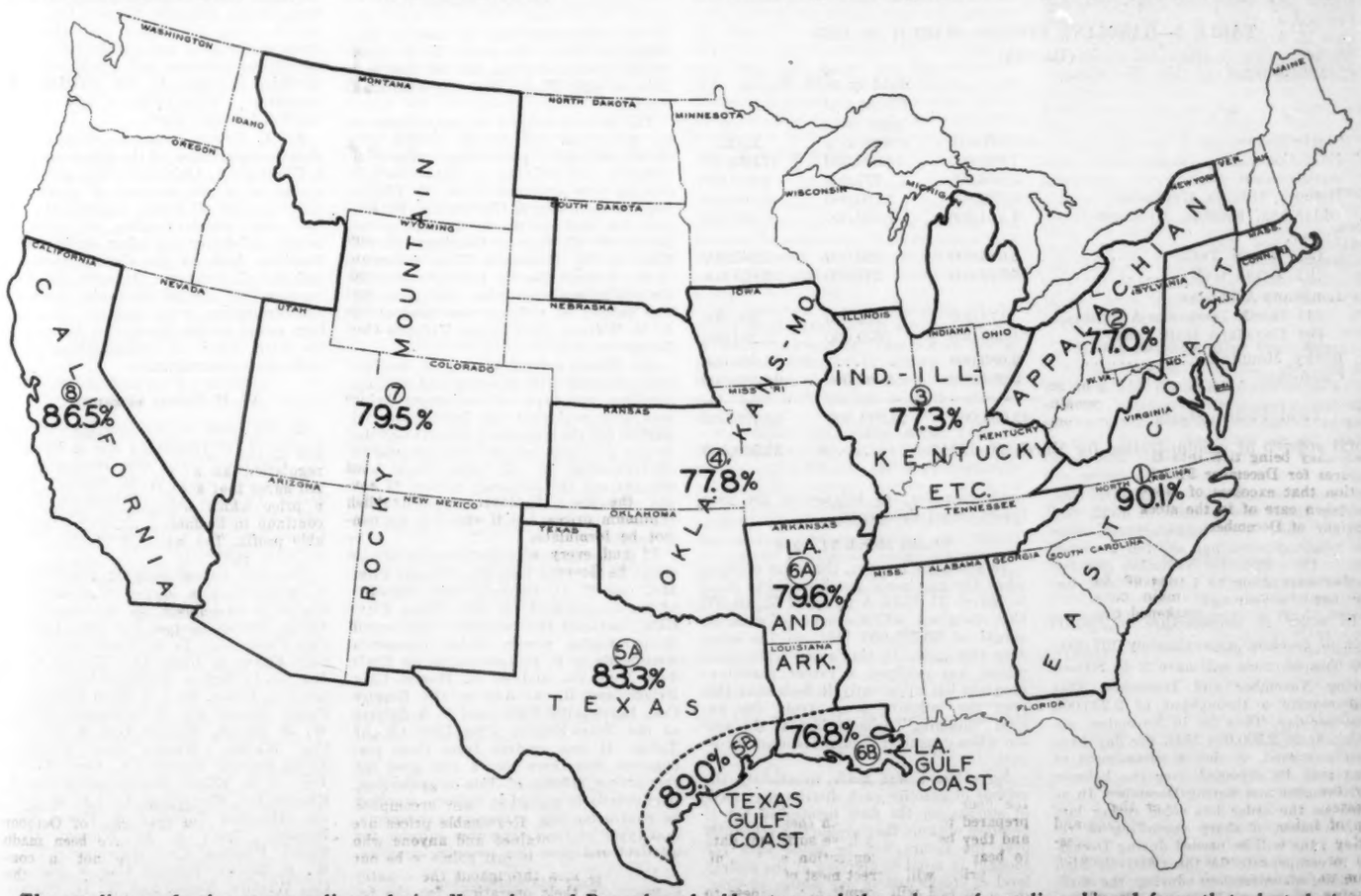
These figures are compiled to show only the volume of gasoline shipped from refineries and refinery-controlled bulk terminals. These movements are directly under the control of the refiners in that particular area as influenced by seasonal variations in consumption. The only exception would be where the refiner in one district delivers gasoline to the bulk terminal of a refiner in another district but the plan provides for such a transfer by use of a "net" figure.

Shipments Used as Basis

The volume of net shipments from each district is known for August and September of this year and this has been chosen as a basis for designating what the gasoline production shall be for the corresponding district during November and December of this year.

Because the shipments made during August and September reflect a high consumer demand, it becomes obvious that gasoline production for November and December must be established as a certain percentage of the shipments. After an exhaustive study of conditions in each district the Planning and Co-ordination Committee designated the respective percentage figure as shown in the accompanying map.

For a refiner to ascertain how much gasoline he may make over November and December he must first review his records and learn how much gasoline he shipped during August and September of this year. He knows the location of the plant



The gasoline production at any refinery during November and December should not exceed the volume of gasoline shipped from that plant during August and September multiplied by the percentage assigned for that district in which the plant is located

and the district in which it falls. By multiplying the per cent designated for that area by his own net shipments, he will arrive at the exact quantity he may manufacture for November and December.

It will be noted that refiners in the Indiana-Illinois district have been assigned the lowest percentage while refiners in the East Coast district are assigned the largest. Some question may arise as to the practicability of issuing an order to cover November operations this late in the month. This was anticipated in the order and for that reason, the period from November 1 to December 31 was chosen and any "overproduction" in November will have to be taken into consideration in December.

Must Cut Crude Runs

Provision is made for a total production in the United States during November and December of 62,220,000 bbls. During these two months in 1932, 63,326,000 bbls. were manufactured, thus the administration has ordered a reduction in the output for November and December amounting to 1,106,000 bbls. under that of a year ago.

In order to manufacture 62,220,000 bbls. of gasoline, approximately 137,000,000 bbls. of crude will have to be refined during November and December. This will require a throughput of 2,245,000 bbls. per day. Thus far in November, approximately 2,300,000 bbls. per day have been processed, so that a curtailment of runs may be expected over the balance of November and during December. In as much as the order has come rather late in November, a sharp curtailing of refinery runs will be needed during December to compensate for the relatively high schedule of operations during the first half of November. It becomes apparent, however, that the tardiness of the order should not be a serious handicap to the fulfillment of the program as outlined.

Stocks January 1, 1934

Stocks of gasoline, exclusive of natural gasoline held by refiners and natural gasoline manufacturers and exclusive of blends held by natural gasoline manufacturers, shall not exceed 51,000,000 bbls. on January 1, 1934, according to the administration order. At present, the writer has estimated total stocks to be 50,440,000 bbls. based upon the latest weekly report of the American Petroleum Institute adjusted to 100 per cent. If the latter is correct, the order permits adding about 600,000 bbls. to storage over the balance of the year.

From the list it becomes apparent that the East Coast refiners, those in Indiana, Illinois and in the Rocky Mountain district will have to curtail their production for the balance of the year below actual shipments.

Stocks March 31, 1934

In a similar manner, the order outlines what the maximum gasoline stocks shall be March 31, 1934. A figure of 52,500,000 bbls. is given which compares with an actual of 63,725,000 bbls. on the same date this year. In this respect the committee has outlined a rather ambitious program but apparently it feels that this year the industry must avoid the annual "dumping" debacle just at the season when consumer demand is most favorable.

No attempt was made to allocate the volume of gasoline each district may have in storage on the date mentioned but it becomes obvious that production schedules over the future will be made with the thought in mind of arriving at the desired level of stocks and in due course of time, the individual district will know what is to be its portion.

TABLE 2—GASOLINE STOCKS

(Barrels)

District—	Jan. 1, 1934 by order of P. and C. Committee	Actual Jan. 1,1933	Estimated stocks at present
1. East Coast	14,065,000	13,552,000	14,262,000
2. Appalachian	2,360,000	2,142,000	2,200,000
3. Indiana, Illinois, Kentucky	7,220,000	6,815,000	7,150,000
4. Oklahoma, Kansas, Missouri	5,780,000	4,826,000	5,700,000
5. Texas:			
(a) Inland Texas	1,930,000	1,742,000	1,651,000
(b) Texas Gulf	4,940,000	5,922,000	5,400,000
Total Texas	6,870,000	7,664,000	7,051,000
6. Louisiana-Arkansas:			
(a) North Louisiana-Arkansas	450,000	335,000	210,000
(b) Louisiana Gulf	1,320,000	1,415,000	1,207,000
Total Louisiana-Arkansas	1,770,000	1,750,000	1,417,000
7. Rocky Mountain	1,125,000	1,192,000	960,000
8. California	11,810,000	12,656,000	11,700,000
Total United States	51,000,000	50,602,000	50,440,000

TABLE 3—GASOLINE STOCKS, MARCH 31, 1933

(Barrels)

District—	At refineries	Held by refining and pipe line companies	Total
1. East Coast	7,066,000	10,903,000	17,969,000
2. Appalachian	2,036,000	777,000	2,813,000
3. Indiana, Illinois, Kentucky	6,516,000	2,190,000	8,706,000
4. Oklahoma, Kansas, Missouri	4,154,000	1,582,000	5,736,000
5. Texas:			
(a) Inland Texas	2,062,000	180,000	2,242,000
(b) Texas Gulf	6,744,000	257,000	7,001,000
6. Louisiana-Arkansas:			
(a) North Louisiana-Arkansas	178,000	222,000	400,000
(b) Louisiana Gulf Coast	1,905,000	379,000	2,284,000
7. Rocky Mountain	2,089,000	.....	2,089,000
8. California	9,904,000	4,581,000	14,485,000
Total United States	42,654,000	21,071,000	63,725,000
Total ordered by administration for March 31, 1934			**52,500,000**

Petroleum Electric Power Club Holds Its Annual Conference at Oklahoma City

One of the most interesting meetings of the Petroleum Electric Power Club was held at the Oklahoma-Biltmore Hotel at Oklahoma City on November 16, 17 and 18, the first day being featured by a joint meeting of representatives of the oil industry and utility representatives and manufacturers.

After introductory remarks by D. C. McKee, of the Empire District Electric Co., Joplin, Mo., chairman for the past year, a paper by J. F. Owens, president

W. H. STUEVE
Chairman, Petroleum Electric Club

of the Oklahoma Gas & Electric Co., Oklahoma City, was read. E. A. Armstrong, Public Service Co. of Northern Illinois, Oak Park, Ill., vice chairman, replied.

The general subject of power sales to the petroleum industry is divided into three sections: production, pipe line pumping and refining. A paper on production was presented by J. E. Elliott, Southwestern Gas & Electric Co., Shreveport, La., and a paper on pipe line pumping by W. H. Stueve, Oklahoma Gas & Electric Co., Oklahoma City, chairman of the Edison Electric Institute committee on oil and gas pipe line pumping. The subject of refining was covered by A. R. Watson, Gulf States Utilities Co., Beaumont, Tex.

Mr. Elliott related the recent developments in deep well pumping and drilling, detailing the type of equipment being used and analyzing the large potential market for electric power companies. Mr. Stueve discussed recent developments in electrification of oil pipe lines and brought out the economic factors in the use of various types of equipment. Mr. Watson discussed similar lines as applied to refineries.

F. E. Richardson, superintendent of the Great Lakes Pipe Line Co., Kansas City, Mo., and E. O. Bennett, chief engineer of the Continental Oil Co., Ponca City, Okla., outlined the problems experienced in purchasing power. Other comments were made by F. E. Leonard of the Shell Pipe Line Co. and A. N. Horne, Clay Briggs and R. A. Axe of the Empire Cos., Bartlesville, Okla., and F. A. Stivers of the Texas-Empire Pipe Line Co. at Tulsa. It was evident from these discussions that there was a real need for the active efforts of this organization, particularly in regard to uniform wording of contracts, line extension agreements, and types of rate structures suitable for oil field and pipe line pumping practice.

Rate Standardization

R. E. Keller, chairman of the club's committee on rate standardization, submitted the committee's revised report, offering a basis of contract, rate form and extension agreement for general use by electric companies supplying service to the oil industry. Through the efforts of the club 16 power companies in six states were able to present quickly a uniform proposal to the Great Lakes Pipe Line Co. which resulted in the electrification of its booster stations between Oklahoma and Chicago, totaling 7,700 horsepower. (Details of this installation may be found in The Oil and Gas Journal, October 12, 1933, page 33.)

Committee Reports

A report of the committee representing electrical manufacturers was presented by George Prout, General Electric Co., Dallas, Tex., with discussion by D. M. McCargar, Allis-Chalmers Manufacturing Co., Tulsa, and M. B. Wyman, Westinghouse Electric & Manufacturing Co., St. Louis.

A. B. Morgan, power and rate consultant, Edison Electric Institute, New York, was present bringing greetings from his organization and engaging in many of the discussions.

On the second day, D. C. McKee, chairman, presented a report outlining organization problems and offering a suggested program for next year. The recommendations were unanimously endorsed.

E. A. Armstrong presented a plan of organization which was adopted. All electric companies interested in the sale of power to the oil industry will be solicited for membership.

The co-operative advertising committee under the chairmanship of Paul Harmon, Texas Electric Service Co., Fort Worth, Tex., has made an exhaustive study of the need and possibilities for an advertising program which will result in material economy to the participating companies. This program was recommended for next year.

J. M. Brown, superintendent of the electric department of the Oklahoma Gas & Electric Co., Oklahoma City, presented a resume of the methods of service in effect in the oil fields, emphasizing the need for standardization of voltages, points of delivery and other service specifications, both to the electric company and the oil company. Interest has been expressed by the oil fraternity for such standardization work and the way has been paved for the power club to co-operate with other oil organizations on a basis for standardization.

W. H. Stueve Chairman

At the close of the meeting, W. H. Stueve, of the Oklahoma Gas & Electric Co., Oklahoma City, was elected chairman for next year; A. R. Watson, Gulf States Utilities Co., Beaumont, Tex., vice chairman, and William Parkerson, Public Service Co. of Oklahoma, Tulsa, secretary-treasurer.

The next annual meeting will be held in Beaumont, Tex. The board of directors elected is as follows: E. A. Armstrong, Public Service Co. of Northern Illinois, Oak Park, Ill.; F. A. Graham, Kansas City Power & Light Co., Kansas City, Mo.; D. C. McKee, Empire District Electric Co., Joplin, Mo.; William Parkerson, Public Service Co. of Oklahoma, Tulsa; W. S. Baugh, Kansas Gas & Electric Co., Wichita, Kans.; Paul Harmon, Texas Electric Service Co., Fort Worth, Tex.; J. E. Elliott, Southwestern Gas & Electric Co., Shreveport, La.; F. M. Austin, Houston Lighting & Power Co., Houston, Tex.; A. R. Watson, Gulf States Utilities Co., Beaumont, Tex.; W. S. Baugh, Kansas Gas & Electric Co., Wichita, Kans., and W. H. Stueve, Oklahoma Gas & Electric Co., Oklahoma City, Okla.

Propose Standard Classification for All Chassis Lubricants to Guide Refiner and Car Owner

By H. C. MOUGEY
General Motors Corp.*

The problem of chassis lubricants is not as simple as the problems of gasoline and motor oils. An enormous amount of work has been done on the subjects of gasoline and motor oils, but chassis lubricants have not received a corresponding amount of attention. The subject, "chassis lubricants," probably covers all the lubricants except the oil used in the crankcase; but the transmission oils, rear-axle oils, and free-wheeling lubricants have had a large amount of study and publicity, and in the present discussion chassis lubricants will be considered as being limited to those used for the following purposes:

1. Wheel bearing.
2. Universal joint.
3. Steering gear.
4. Water pump.
5. Spring shackles, king pins, etc.

However, before dismissing the subject of transmission and rear-axle oils, attention should be called to the progress being made by the Lubricants Research Committee of the Society of Automotive Engineers which is studying the subject of extreme-pressure lubricants. At the summer meeting of the society held in Chicago, in August of this year, this committee reported on the progress that has been made.

The committee has developed an extreme-pressure-lubricants testing machine, and the methods of testing lubricants with this machine. The committee's preliminary data indicate that extreme-pressure lubricants can be graded in regard to load-carrying ability in the same order as is shown by performance in service. It appears that, as a result of the work of this committee, the subject of extreme-pressure lubricants will be cleared up within the near future.

Chassis lubricants, within the limits of this discussion, have one property in common. They are used in rather limited amounts at various places on the car, where they must have the property of flowing to the bearing surfaces, but must resist leaking out of the bearings or housings which, in most cases, are not absolutely oil-tight. In order to show more clearly the properties required for the various chassis parts, they will be discussed individually.

Wheel-Bearing Lubricants

Cup grease of about No. 2½ or No. 3 consistency was formerly in general use, and even at the present time cup greases are still being used in some cases for wheel-bearing lubricants. Since the advent of four-wheel brakes the temperatures developed in the bearings have increased, and troubles with cup grease for wheel bearings have also increased. The low viscosity oils and the calcium soaps used in cup greases tend to separate under the effect of the elevated temperatures, and the low viscosity oils leak away—leaving more or less dry soap in the bearings. Higher viscosity oils, combined with soaps which are more resistant to separation under the effects of elevated temperatures, appear to be decreasing these troubles. A common recommendation is "short-fiber grease of about No. 3 consistency." The heat resistance of soda-soap greases, rather than any particular merit of the fiber, is the desired property. In some cases it is recommended that the fiber greases used for wheel bearings be milled to destroy the fiber characteristic as much as possible. This milling is desirable in making a grease that is more easily applied; but in service the grease, of course, is soon milled in actual use in the bearing, regardless of whether it was supplied in the milled condition or not.

Since leakage of the lubricant from the wheel bearings onto the brakes is very undesirable, it is common practice to recommend that wheel-bearing lubricants be used in limited amounts in contrast to the practice of a few years ago when the wheel bearings and hub caps were packed with cup grease.

Soda-soap greases have the reputation of being less water resistant than calcium-soap greases; but their greater resistance to separation at elevated temperatures, combined with the fact that the bearings do not come in contact with liquid water as a rule because of the construction of the wheel-bearing housings, decreases the objection to soda-soap greases for this purpose. To secure more resistance to water, some companies add calcium soap in addition to the sodium soap; and, no doubt, other special additions are made in other cases. The very high viscosity oils used in many of the commercial wheel-bearing greases also increase their resistance to water. It is interesting to note that the stiff and non-fluid consistency at low temperatures, which results from the use of high viscosity oils with appreciable amounts of soap, does not appear to interfere with the proper lubrication of the wheel bearings.

Due to troubles resulting from bearings being improperly adjusted by greasing stations, most companies recommend that wheel bearings be lubricated only at long intervals, for instance, 5,000 or 10,000 miles, or when for some other reason the brakes are adjusted or bearings need attention. This means that the lubrication of wheel bearings belongs to the repair shop rather than to the greasing station.

The discussion on wheel bearings applies in general to front-wheel bearings, since the design in many cars is such that the rear wheels are lubricated automatically by the lubricant in the rear axle. This is not true in all cases, and the instructions of the car manufacturer should be consulted.

Universal Joints

There are a number of different types of universal joints, many of which do not require attention by the greasing station:

1. Some universal joints are sealed, and are designed to be lubricated with oil. The oil is put into the joint when it is sealed, and its relubrication is a repair shop job rather than one for the greasing station.

2. Needle bearings are coming into general use. In general, these universal joints are also sealed; and their lubrication, whether with oil or grease, is usually not a greasing station job.

3. Torque-tube type universal joints are usually lubricated automatically by the transmission lubricant.

4. Yoke and ring-type bearings having separate lubrication, frequently known as "Spicer joints," are typical of the universal joints most likely to be serviced by the greasing station.

At the annual meeting of the Society of Automobile Engineers in 1929, C. W. Spicer gave a paper on chassis lubricants, with particular emphasis to universal-joint lubricants.† In this paper Mr. Spicer says:

"I have never seen a straight-lime grease that would withstand the centrifugal action in universal joints at speeds that are now common in motor cars. Up to the present nearly all of the greases that have been developed as satisfactory for universal joints have contained a soda-base soap. In a few instances greases that were satisfactory in operation have contained small percentages of lime or potash in combination with the soda."

Mr. Spicer gives analyses of seven typical greases that, in his opinion, when properly manufactured, are suitable for all the usual high-pressure fittings on the chassis, including universal joints. The viscosity of the mineral oil in these greases ranges from 60 to 155 seconds at 210° F. The soap is soda soap in all cases, ranging from 8.4 to 18 per cent, although in one case there is 3.9 per cent calcium soap in addition to 12.6 per cent sodium soap. There are some automotive engineers who do not believe that soda greases are desirable for uses where there is direct exposure to water, such as in spring shackles; but, in so far as universal-joint greases are concerned, most of the industry appears to be in general agreement with Mr. Spicer that universal-joint greases are made with high viscosity mineral oil using soda soap.

Steering Gears

The lubricants required for steering gears depend upon the type of gear and the service conditions. Steering gears may be classified in two very general classes:

1. Steel worm with a sector of a steel wheel.

2. Steel worm with the teeth of the sector of the steel wheel replaced by one or more steel rollers. The rollers are of two types: Those that contact with the worm on the circumference of the roller, and those that contact with the side of the roller.

For light cars, using either type of gear, the problem is not serious; since, in general, the loads are not excessively heavy. Transmission lubricant, with or without a small amount of soap to decrease leakage, changing the lubricant in the steering gear according to the season or climatic conditions, appears to be satisfactory. In many cases, however, no provision is made for draining, and seasonal changes of the lubricant are somewhat difficult. For heavy cars, using the steel worm with sector of a steel wheel, the loads are higher and the problem is more difficult. The lubricant should be sufficiently high in viscosity to prevent metal-to-metal contact, but trouble may be experienced due to such high viscosity lubricants becoming so viscous in cold weather as to make steering very difficult. Seasonal changes with this type of gear and with heavy cars are even more important than with the lighter cars. Lubricants containing animal or vegetable oil, and which have less change in viscosity with change in temperature, are being tried in some cases. The use of lubricants with extreme-pressure characteristics is also being considered. However, the problem of a lubricant for steel worms on steel wheels at high loads with large temperature variations is one which requires further study.

For either light or heavy cars, using the gears with the rollers, the problem is not as difficult. A moderate-viscosity oil, with or without a small amount of soap to decrease leakage, is satisfactory in either summer or winter, unless the gear should become worn or loose. In such a case a higher-viscosity oil is sometimes used in an attempt to decrease the clearance.

Water Pump

Water pumps are of several designs, and require different lubricants. Most of the cars on the road require a lubricant that will resist being dissolved or disintegrated by hot water. A medium or low-viscosity oil, with a large amount of water-insoluble soap, is generally used. Petrolatum, high melting point fats, and other additions are sometimes found. In some of the cars of more recent manufacture, water pumps that are satisfactorily lubricated with ordinary engine oil are in general use. Others of newer designs use a thrust-washer packing that tends to keep the lubricant from coming in contact with the water, thus making almost any fluid or semifluid lubricant satisfactory. In some cases the water pump is packed when made, and no provision for lubrication in service is made.

Spring Shackles, King Pins, Etc.

Spring shakles, king pins, etc., are in the fifth and remaining classification. In general, wherever pressure-gun fittings are installed, pressure-gun lubricants will be used. Unless the parts can be lubricated with almost any kind of pressure-gun grease on the market, trouble is likely to be experienced by the car owner, as there is no way to be sure that the special lubricant that may be required will be properly used. In order to solve this problem, car manufacturers have tried different designs. Rubber spring-eye and shackle bearings are in general use. The present tendency appears to be to use a

TABLE 1—SUGGESTED CHASSIS-LUBRICANTS CLASSIFICATION

Chassis lubricant	Special property required of the soap-and-oil combination	Worked penetration		Viscosity of mineral oil used		Suggested use
		Minimum	Maximum	Minimum	Maximum	
100	Water-resistant	300	400	S.A.E. 20	S.A.E. 30	Chassis lubricant for general use, but especially under conditions of application below 40° F.
200	Water-resistant	300	400	S.A.E. 40	.....	Chassis lubricant, for general use under conditions of application above 40° F.
300	Resistant to separation, especially at elevated temperatures	200	300	S.A.E. 20	S.A.E. 30	Wheel bearings, universal joints, etc.
400	Resistant to separation, especially at elevated temperatures	200	300	S.A.E. 40	.....	Wheel bearings, universal joints, etc.
500	Resistant to hot water	*60	150	S.A.E. 10	.....	Water pumps, where the lubricant comes in contact with hot cooling liquid.

*Penetration numbers of 150 or less are specificied in terms of unworked penetration instead of worked penetration.

*Presented before Chicago meeting, A.P.I.

†Soc. Automotive Eng. 24, 604 (1929).

XUM

threaded-shackle bearing—with the rubber bearing, if used, limited to the fixed end of the spring. One-shot lubricating systems by which a fluid oil is piped to the different bearings, are in use in some cars. The use of these systems proves that an oil of low viscosity, without any soap addition, is satisfactory as long as the oil remains in the bearings—provided the bearings are lubricated at sufficiently frequent intervals.

Tend to Leak

Low-viscosity oils, however, tend to leak from bearings that are as open as those in this class; and, where the one-shot system is not used, additions of soap to prevent leakage are very common. High-viscosity oil, to decrease the tendency to leak, has also been used extensively. Service records appear to prove that high-viscosity oil, thickened with a small amount of soap, will provide satisfactory lubrication over a longer period of time than lower-viscosity oil, with or without soap. The difficulty of high-viscosity oil with the addition of soap is the trouble encountered in application in cold weather. The high-viscosity oil is so thick at low temperatures that difficulty is experienced in applying the lubricant with the ordinary pressure-gun equipment. Lower-viscosity oils with the addition of soap are in general use to overcome this trouble. Their use may be necessary at the present time and until the greasing stations are supplied with pressure-gun equipment that will handle the high-viscosity oil greases in cold weather.

The Society of Automotive Engineers has recognized the problems of chassis-lubricant classification for many years. It has appeared so difficult that until recently no active steps were taken to suggest any classification. The principal variables in chassis lubricants are:

1. Kind of soap.
2. Amount of soap.
3. Consistency of finished lubricant.
4. Viscosity of the mineral oil.

With a possibility for each of these variables to extend over wide ranges, the number of combinations is infinite. By dividing these factors into classes, and choosing only a few of the classes, a comparatively small number of lubricants would be the result. A still further simplification would result from combining the first three factors in two classes, thus giving a system based on the following properties:

1. Kind of soap, specified by the properties of the finished lubricant, rather than by the chemical composition of the soap.
2. The amount of soap to be determined by the consistency of the finished lubricant, thus making it possible to combine the factors, amount of soap, and consistency of the grease.
3. The viscosity of the mineral oil.

The S.A.E. subcommittee suggested a classification based on a three-digit numbering system—the hundreds' digit indicating the type of soap, the tens' digit indicating the consistency, and the units' digit indicating the viscosity of the mineral oil. For example, if the 500 series is chosen for lubricants with water-resistant soaps, and the 600 series for those with heat-resistant soaps, then a 502 lubricant would be the same as a 602 lubricant in respect to consistency and to the viscosity of the mineral oil; but the 502 would be made with a water-resistant soap, for example, calcium, and the 602 with a heat-resistant soap, for example, sodium. A 605 lubricant would be similar to a 602 lubricant in kind of soap and consistency, but the 605 would be made from a higher-viscosity mineral oil than the 602.

From a classification standpoint, this system appears to have some merit. However, objection was raised by several of the oil-company representatives that, if this system should be adopted, then greases represented by each of the possible combinations of numbers might be specified by different automobile companies. Since it would be a physical impossibility for large numbers of greases to be distributed and used properly, such a procedure would be to the disadvantage of the oil industry, the automobile industry, and the general public.

Limit Number

The suggestion was then made to limit the number of lubricants to the lowest possible number, and thereupon make a classification that would meet the following requirements:

1. It should include the lubricants that are needed, now or in the future.
2. It should not interfere with the development of new lubricants, if they should be required.
3. It should decrease the number of lubricants that the greasing stations must carry.
4. It should be sufficiently complete so that it could be used for purposes of recommending lubricants.
5. It should not be so elaborate or detailed that it would be taken as a standard of quality of the lubricants in each class, but each oil company should be free to develop points of extra merit or quality in the lubricants that they supply. The oil company, rather than the classification number, should be looked upon as the guarantee of quality.
6. It should use names or numbers that will not cause confusion with those now in general commercial use.

With these requirements in mind, Table 1 has been suggested as a tentative classification.

It should be emphasized that the classification in Table 1 is only tentative, and that it is not the recommendation of any specific committee. It is given only as a suggestion of one way to classify chassis lubricants, and to promote constructive criticism.

It will be noted that no classification is suggested for steering-gear lubricants. It is my belief that the great majority of steering gears may be lubricated satisfactorily with the regular transmission lubricants or, in some cases even, with engine oils. Before any classification for steering-gear lubricants could be adopted, I feel that the present limited need for lubricants, other than those just mentioned, will have passed.

It is recognized that there are no standard tests to determine the resistance of the greases to water or to separation at elevated temperatures, but I do not believe that they are needed at the present time. It is generally understood that water-resistant greases are made with calcium or aluminum soaps, and that a soda-soap grease is the typical representative of the heat-resistant grease. However, there is reason to believe that some other materials may be used. Any oil company marketing its product under this proposed classification would assume the responsibility of making its product satisfactory from a commercial standpoint.

There appears to be some difference of opinion as to the desirability of lubricants for spring shackles made using sodium soap. If soda-soap greases are in fact water-resistant, then they meet the requirements of the chassis-lubricant classifications No. 100 and No. 200; and there is no need for further discussion on this subject. If they are not water-resistant, and there is a commercial need for them, then another classification could be made for nonwater-resistant spring-shackle lubricants, but I can see no reason why an automobile owner would desire to have nonwater-resistant lubricant used in parts as much exposed to the weather as spring shackles or king pins.

It is my belief that the recommendation of transmission oil for chassis lubricants, which has been rather general in the past, has been due to the fact that the automobile companies making these recommendations felt that they were more desirable than ordinary cup greases. In addition, suitable chassis lubricants of the kind we are now considering have not always been generally distributed, and there has not been any recognized method of specifying them. In addition to the oil industry's benefiting by not being required to distribute such a large number of lubricants, the proposed classification of chassis lubricants should also benefit the automobile industry and the general public, by making possible the recommendation and use of the lubricants that are most suitable for the different purposes.

Five Chassis Lubricants

It will be noted that the proposed classification calls for but five chassis lubricants, of which only three or possibly four would be required by any one greasing station at any one time. The two lubricants for spring shakles, No. 100 and No. 200, are to provide for the differences in temperature at the time of application. Of course, greasing stations that are heated in winter, or those in warm climates, could use the No. 200 classification all year round. The two "wheel-bearing and universal-joint" classifications, No. 300 and No. 400, are to provide for a commercial situation due to differences in opinion of the grease manufacturers. For my own part, I cannot see why one lubricant could not be developed that would be satisfactory for both purposes. If a development of this type should become a commercial fact, then either one or the other of two classifications, No. 300 and No. 400, might become obsolete.

It should be emphasized that this proposed classification system is intended for purposes of recommendation and distribution, and is not what is commonly known as a purchasing agent's specification. In the case of purchases for original greasing of the car by the automobile manufacturers, the amounts of material involved in any single transaction might be sufficiently large that special batches with close limits, or even special tests, would be possible. If one large automobile company desired to hold the soap content of a certain lubricant between the limits of 8 per cent and 10 per cent, and another company desired to have a similar lubricant but with the limits between 10 per cent and 12 per cent, the oil companies having the contracts with these automobile companies would proceed just as they have done in the past. Like the S.A.E. numbers for engine oils and transmission lubricants, the classification is not a standard of quality, but the individual oil companies supplying the products must be depended upon for the quality of the products they supply. Our experience in the past has been such that we believe the petroleum industry may be depended upon to do its part.

Getty Interests Acquire 20 Per Cent of Tide Water Associated Shares

NEW YORK, Nov. 27.—J. Paul Getty and associates have acquired in the last 18 months slightly more than 1,100,000 shares of the common stock of the Tide Water Associated Oil Co., or approximately 20 per cent of the 5,611,240 shares outstanding. The 320,000 shares of stock that had been held by the Petroleum Corp. of America and virtually all shares owned by the First Securities Co., an affiliate of the First National Bank of New York, were among the blocks acquired.

Mr. Getty is quoted as saying the merger of Pacific Western Oil Corp., large independent producer of crude and natural gasoline on the West Coast, with the Tide Water Associated, "would be a logical step in view of the fact that it is a producer of crude oil while Tide Water Associated has insufficient production of its own to supply its wants and is compelled to purchase about half of the crude oil it refines. Should the two companies be consolidated, Tide Water would have additional crude to supply its requirements while Pacific Western would have an outlet for the crude it produces."

No change in the management of Tide Water Associated is contemplated. A few months ago J. Paul Getty, who represented the Getty interests in acquiring the holdings, was elected a director of the company. However, at the next annual meeting additional directors friendly to the Getty interests will probably be chosen. W. F. Humphrey is president, having succeeded Axtell J. Byles, who resigned last May to become president of the American Petroleum Institute.

Two hundred thousand shares of the stock bought by the Getty interests are held by the Pacific Western Oil Corp., which is controlled by the Getty interests through a 52 per cent interest. This stock, as well as that held directly by the Getty interests, was acquired at an average cost of about $5 a share. The accumulation was started in March, 1932.

Merger Expected

Because of interlocking interests, it is considered likely that in time an attempt will be made to consolidate Pacific Western and Tide Water Associated. Pacific Western is a leading producing company operating in California, with production of about 12,000 bbls. daily under the present restricted basis. The company was formed in 1928 when a group purchased for $26,000,000 the remaining oil interests of E. L. Doheny on the Pacific Coast. Properties bought since then include about 40 per cent of the Elwood Field and a one-half interest in the Kettleman Oil Corp., a pioneer company in Kettleman Hills.

Because of the large interest in Tide Water Associated now owned on the Pacific Coast the removal of its headquarters to San Francisco has been hinted. The headquarters of the Associated Oil Co., a major subsidiary of Tide Water Associated, is on the Pacific Coast. The headquarters of the Tide Water Oil Co., another major subsidiary, would probably remain in New York.

Prior to breaking off of negotiations late last summer discussions for the acquisition of Tide Water Associated by the Consolidated Oil Corp. had been going on for several years. Interests friendly to Consolidated, it is understood, agreed to buy the interest of the Standard Oil Co. of New Jersey in Tide Water Associated, amounting to about 1,000,000 shares of common stock. This stock is now held by the Mission Securities Co., on which the purchasers still owe the New Jersey company approximately $15,000,000.

Attitude of Consolidated

The fact that the Petroleum Corp. of America, which is identified to some extent with the Consolidated Oil Corp. interests, has disposed of its stock, indicates that Consolidated definitely is not interested further in the acquisition of Tide Water Associated. The feeling is that the stock held by Mission Securities will revert eventually to the New Jersey company. Tide Water Associated common is selling around $10 a share, while approximately $15 a share is still owed to the New Jersey company.

The Tide Water Associated Oil Co. was formed in 1926 through a merger of the Tide Water Oil Co. and the Associated Oil Co. At the close of last year Tide Water Associated owned about 98 per cent of the outstanding stock of both companies. The stock interests of the New Jersey company and of the First National Bank in Tide Water Associated were obtained through the exchange of Tide Water Oil stocks.

The Associated company operates two refineries in California where it has crude oil production and pipe lines with distribution in several western states. The Tide Water through a subsidiary has a refinery at Drumright, Okla., with production and pipe lines in Oklahoma and Texas.

Greater Yield Secured From Repressured Wells in Bartlesville Sand Fields of Oklahoma

By L. G. E. BIGNELL
Petroleum Engineering Editor

In northeastern Oklahoma in Rogers and Nowata Counties there are 20 pools covering a large area underlain by the Bartlesville sand found at depths varying from 400 to 1,200 feet. The area was developed largely between 1904 and 1911 by the drilling of more than 10,000 wells. Some of these wells produced more than 1,000 bbls. of oil daily during their early life. Hundreds of millions of barrels of oil have been produced from Bartlesville sand fields of northeastern Oklahoma and this has resulted in the dissipation of much of the natural reservoir energy accompanying the oil. Rate of production for the wells has declined to less than 1 bbl. per day in many pools. Low price for crude oil and ease of securing abundant oil from flush fields in other areas has tended to distract attention from these "stripper" wells.

The Bartlesville sand oil fields of northeastern Oklahoma are peculiar in that there has been a lack of water drive. It is also reported that there was little free natural gas accompaning the oil when the wells were completed. The wells in the Delaware-Childers Field do not make any water with the oil unless it has leaked into the lower formation through bad casing from upper strata. It has been estimated that the Bartlesville sand in this area originally contained as high as 40,000 bbls. of oil per acre. Recovery to date is placed at less than 2,000 bbls. per acre. This is a recovery of less than 5 per cent.

Original Equipment

Most of the wells were drilled with light cable tools and the casing program consisted of setting from a few joints to as much as 450 feet of 8¼-inch 17-pound casing for a surface string, with 6¼-inch 13-pound casing set just above the Bartlesville formation. When natural flow through the casing ceased it was common practice to run 2-inch tubing and put the well on pump. Central powers were used in pumping. It is reported that the cost of drilling and equipping an 850-foot well complete for pumping was about $3,500.

These wells quickly paid out because of the demand for the oil and the prevailing prices during the early life of the wells. As the daily production declined to the point where it was no longer profitable for the individual operator to continue to pump the well it was sold to larger companies who consolidated leases into larger blocks and continued to operate them.

Changing Conditions

With the flood of oil developed in recent years, partly because of the introduction of modern methods of drilling and production, these older fields have been neglected. Little or no money was expended in upkeep and they have been permitted to get along as best they could. Some of them have been operated by the larger companies at an actual loss without definite check being made upon costs simply because the company was satisfied to secure the oil and by averaging costs of production of oil from old and new fields showed satisfactory results.

In the meantime individual operators recognizing the opportunities to invest in these small wells gradualllly accumulated acreage until they had fairly good size blocks. They proceeded to apply air drives or vacuum to these wells to increase their rate of production and to lower costs.

The results were satisfactory and it then became apparent to the larger oil companies that they could apply good engineering practice to these fields and lower production costs and also enable some of the old leases to produce in increased volume and for a much longer period. It was not so much the desire for the additional oil that led the larger companies to recondition these old properties as the desire to protect land and royalty owners and secure as high an ultimate yield from these sands as possible.

The lack of edge or bottom meteoric water in these oil fields in Nowata and Rogers County is of much interest. Comparison between this area and East Texas has been made by D. R. Snow, vice president of Barnsdall Oil Co. in charge of geology, in an article published in The Oil and Gas Journal, April 21, 1932, and in the September, 1932, issue of the Bulletin of the American Association of Petroleum Geologists. Mr. Snow states that analyses of water from the Bartlesville sand show it to be connate, the total concentration of solids being several times that of sea water.

Little Free Gas

Mr. Snow further states that water has been neither a help nor menace in the Nowata area and it is also known that there is very little free gas remaining in the reservoirs, so it has become necessary for the engineers to devise means of supplying some form of mechanical energy with which to move the oil to the bottom of the wells. One of the early methods tried in this area was the application of vacuum to the wells. A complete report on this work has been made by Ben E. Lindsly, senior petroleum engineer, U. S. Bureau of Mines, Bartlesville, Okla., and published in 1926 Petroleum Development and Technology, Petroleum Division, A.I.M.E.

In an article published in the November 5, 1925, issue of The Oil and Gas Journal, James McIntyre states that the earliest use of gas for repressuring purposes in this general area was in 1920 by Mr. Eysenbach on his lease in Section 27-27-16.

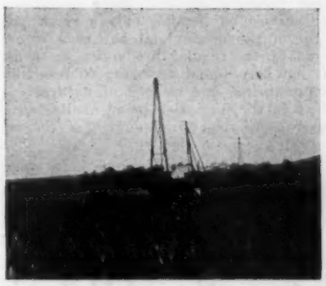
Repressuring with air and gas was started in the Delaware Extension Field in 1926 under the direction of Dunn & Lewis for the Delaware Consolidated Oil Co. Report upon the work of this company is given in an article by J. O. Lewis published in the July 7, 1932, issue of The Oil and Gas Journal.

Other repressuring operations were started in the Nowata district in 1925, and as a result of this work the application of vacuum to these wells was gradually discontinued and is no longer practiced in this district.

Recent Activities

The Sinclair Prairie Oil Co., with headquarters in Tulsa, owns about 2,660 acres in the Nowata Field divided into three main blocks. There are about 360 wells on this acreage, some of which are used as pressure wells. The wells are spaced to drain about 4½ acres each, but since the repressuring activities have started additional wells have been drilled on many of the leases.

In the Delaware-Childers area, which extends east for nearly 7 miles from the town of Delaware, the wells vary in depth from about 400 to 1,000 feet. These wells produce from Bartlesville sand pools of the typical lens type. In this area the Sinclair Prairie Oil Co.'s wells have an average depth of about 650 feet.



Drilling three five-spot wells in the Delaware-Childers field, Nowata County, Oklahoma

Intruding water gave some trouble and had cut off production from many of the wells. At first an effort was made to pump this water out of the producing sand, but this required considerable length of time and was costly.

Before an old well is placed on pressure, as a "key" well, the casing is repaired if it is not in good condition, and the well cleaned. Where the casing is in good condition no tubing is run and the compressed air or vapor is injected into the top of the casing.

If the casing appears weak after being repaired tubing is run to the bottom of the casing where a rag packer is set and the annular space between tubing and casing above the packer is filled with mud. This method of repair is only used occasionally, the preferred method being to properly repair the casing by pulling the string and replacing old and worn joints with good pipe, and rerunning.

Security Fee compressor plant of Sinclair Prairie Oil Co. in Nowata County, Oklahoma

After repairs have been made on the "key" wells air or gas is turned into the casing or tubing and the line pressure built up in the bottom of the hole. If there is water in the formation the pressure is built up against it and maintained until such time as the air will break through the water and move toward an output well. It has been found that this method of by-passing water with air is quite effective and eliminates the necessity of pumping, or removing by other means, the intruded water in the Bartlesville sand. As the air by-passes no great amount of water is driven into the area occupied by oil and the production secured from outlet wells is therefore usually quite free of water.

Operations Started With Air

Sinclair Prairie Oil Co. has three compressor plants in this area known as the Tanner, Security Fee and Wettack stations. Direct gas-engine-driven two-cylinder compressors are used, several of them reclaimed from Seminole district natural gasoline or air-lift plants. The pressures required to drive the air or gas through the formation varies from 15 to 150 pounds per square inch.

Two problems are presented in using this type of compressor. The supply of fuel for the power end of the unit, and the gas or air for the compressor end. In starting these repressuring operations it was necessary to use air at first in the wells, as natural gas was not available except by purchase from gas systems. The power unit of the compressors used a mixture of about 50 per cent air and natural gas at first, but as the load increased it was found more efficient to supplant this mixed fuel with natural gas purchased from adjacent gas wells.

The air used in the compressor end of the units has been recycled in the past year's operations until the Tanner compressors now operate on about 950,000 feet of vapor daily.

The other compressors in this Tanner plant still handle about 800,000 feet of air daily. At the Security Fee plant the compressors use 250,000 feet of vapor in one compressor and 350,000 feet of air in the other. The Wettack plant uses 325,000 feet of air daily compressed to about 160 pounds per square inch. The vapor available for this plant is gradually increasing in volume and there will soon be sufficient to operate part of the wells with it instead of the air.

In time the recycled air will become saturated with hydrocarbon vapors and mixed with natural gas still remaining in the formation and the proportion of air to gas materially reduced. Hereafter the term "vapor" will be used to describe either the air or air-gas mixture. From past experience it is believed that all compressors will soon be operated with vapor in the compression cylinder end of the units. In the meantime the straight air system is separated from the air-gas mixture in the compressors to avoid possibility of explosions.

At each of the compressor plants all incoming vapor is passed through scrubbers to remove solids and moisture. After compression it is delivered into manifolds to which are welded the various lines that distribute the vapor under pressure to the various wells.

The distributing pipe lines for the vapor are laid out in systems covering various portions of the leases adjacent to each compressor station. At the well the line is connected into a header composed of a piece of vertical pipe leading to a joint of horizontal pipe that terminates

in the upper end of the 2-inch tubing, or the casing, depending upon the condition of the casing in the hole. Two types of headers are shown in accompanying cuts.

One picture shows the orifice meter attached to an upright and connected on either side of the flange containing the orifice. The meters are used at all input wells to record the static pressure, also the differential pressures between the high and low-pressure sides of the orifice, and from these readings the volume is

Older type headers at an input well on lease of Sinclair Prairie Oil Co. in Delaware-Childers area, Nowata County, Oklahoma

calculated, and a record made of the static pressure of the vapor delivered into the wells.

Daily Measurements

It has been found that these daily measurements of volume and pressure of input vapor into the well is the only safe way to conduct repressuring operations. If the volume and pressure for each well is not known at all times it is possible to inject excessive amounts of vapor into the formation causing by-passing or channelling and resulting in cut oil and excessive pulling costs. If too little vapor is injected into the well low recovery results.

The picture of the header without meter shows the latest design of input well header. It will be noted that the compressed vapor is delivered into the horizontal pipe through one-half inch pipe fitted in the right hand corner of the header. The 2-inch pipe in this corner is blanked so the vapor must pass through the one-half inch pipe, and in this pipe a Globe valve is placed to regulate pressure to the well. It is also planned to have a small check valve in this one-half inch portion of the header that will be set against the well pressure and used instead of the 2-inch check valve shown in the picture.

Flanges for the orifice meter are shown in place in the picture ready to receive the meter. The top of the tubing shown at the left enters the casing and is provided with a packer at the lower end to prevent the escape of vapor to the surface, or upper formations, through openings in the casing. This 2-inch tubing is provided with a valve to be opened or closed as needed.

The vapor enters the formation at the input wells and makes its escape into the output wells driving the oil ahead of it. This oil is pumped to the surface through tubing and delivered into the usual type gun-barrel and lease storage tanks. Such small amounts of vapor as may be entrained in the oil accompanies it and escapes to the atmosphere from the gun barrel. As the end of the tubing is submerged in the oil accumulated in the sump below the Bartlesville sand the vapor in the bottom of the hole is effectively sealed off.

The casing in the output wells is tight and closed at the well head with the usual type casinghead. Vapor accumulating in the annular space between tubing and casing is permitted to escape into vapor gathering line connected to the casinghead at the surface. This gathering system delivers the vapor to the scrubbers at the compressor plants where solids and moisture is removed before it is again compressed and recycled.

This recycling of the original air changes it gradually to a saturated vapor combined with such small amounts of natural gas still escaping from the producing formation. The vapor loss to the atmosphere from this system is very small. Periodically this return vapor is metered at output wells and samples collected and analyzed.

Results Obtained

The Sinclair Prairie Oil Co. began to increase its repressuring work in the Delaware-Childers district about September, 1932. Many of the leases had been under pressure for a number of years but the production had declined to such a small amount that it was necessary to increase the yield or abandon the properties. Based upon the estimated production that would have been secured during October, 1933, with the repressuring, it has been found that the increase in the three areas served by the new compressor plants has been 169, 300 and 408 per cent, respectively.

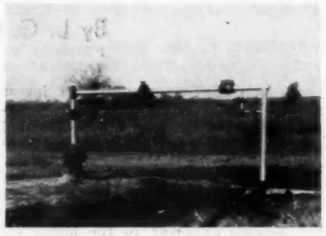
These percentages represent increase in oil delivered to the tanks during October, 1933, as compared to the estimated oil that would have been recovered from the same wells if the normal rate of decline in effect a year ago had continued.

The increased oil is paying for the cost of reconditioning wells and installing new equipment. Since it requires about the same amount of labor to operate a lease after the increase is obtained as it would before, the cost per barrel for oil lifted is considerably less and thus enables the producing company to show a profit on its operations.

It is quite essential in the interests of true conservation that these operations be carried on because only a small per cent of the original oil has been recovered by the regular production methods. It has been found necessary to resort to repressuring, due to lack of natural energy in the formation being available, to secure the remaining portion of the oil left in the formation.

Throughout the district additional wells are being drilled between old oil wells. These new wells have come in with initial production of from 15 to 32 bbls. per day and have maintained their initial rate for some time, gradually decreasing to smaller wells but still producing more oil than the older reconditioned wells.

There is one notable exception to this statement. One well that had an initial production of 15 bbls. daily gradually increased to more than 40 bbls. per day. This was probably due to the effect of



Newer type header at input well on a repressured lease of Sinclair Prairie Oil Co., Nowata County, Oklahoma

repressuring in the area adjacent to this well, and peculiar sand conditions.

The so-called five-spot wells are drilled and completed in the usual manner with 6¼-inch casing set on top of the Bartlesville sand. It is also common practice in this field to drill the hole through the pay sand and then give it a light shot followed by clean out, and then set the string of casing. In this area the Bartlesville sand is about 50 feet thick. It is general practice to drill the 6-inch hole through this producing formation and into the dry shale below it for a distance of from 50 to 100 feet to form a sump into which the oil from the sand may accumulate.

The string of tubing in the outlet wells is set near the bottom of this sump with the usual type working barrel and the oil accumulates until the hole is partly full. The theory of this practice is that the pressure is removed from the face of the producing sand and this permits the oil to drain into the sump, or hole drilled into the dry shale formation below the Bartlesville sand, from which pocket it is pumped to the surface.

One picture shows rigs up at three of these five-spot well locations on the Tanner lease. These wells are being drilled to protect the sand from drainage by offset wells.

Pumping Equipment

Equipment in these Bartlesville sand fields of northeastern Oklahoma is for the most part old and not of the improved type. Most wells are pumped with central powers. These old powers are in many cases sadly in need of repair and to efficiently pump the larger capacity wells it is going to be necessary to operate them to their full capacity which will necessitate their being in good mechanical conditions.

It therefore seems that the whole area will provide a market for some type of new pumping equipment that will efficiently handle the increased production. Lack of natural gas produced with the oil is making it advisable to import gas into the area from gas wells. This gas is being purchased for power purposes and it is therefore going to present a cost item to be seriously considered in estimating future production costs.

A short time ago the industry was greatly excited by the "greatest field in the world" with more than 10,000 wells and had forgotten about this Bartlesville sand area, equal in extent to East Texas and having probably 20,000 producers that will play an important part in future oil production.

If these old stripper wells are discarded it will seriously affect the national allotment of oil to be produced by Oklahoma wells. The investment already made will be wiped out. If on the other hand these strippers are put into good condition by engineers or production men familiar with this class of production many millions of additional barrels of oil will be recovered with normal profit to the well owners.

The area presents some interesting problems for manufacturers of equipment and with the knowledge already gained it is believed that thousands of additional wells will be reconditioned and hundreds drilled with beneficial results to all branches of the industry and allied industries.

International Petroleum Exposition Dates Are Set for May 12-19, at Tulsa

The International Petroleum Exposition and Congress, the world's fair of the oil industry, will be held in Tulsa May 12 to 19, 1934, it was announced this week by William B. Way, who was renamed last week as general chairman of the exposition.

The announcement of the dates for the show was made following a meeting several days ago in the office of William G. Skelly, president of the Skelly Oil Co., and president of the International Petroleum Exposition, of the executive committee of the organization.

Those who attended the executive committee meeting, and who are charged with the responsibility of the mammoth show, were: Mr. Skelly; O. T. Dawson, district manager of the National Supply Co.; A. W. Leonard, vice president of the Devonian Oil Co.; William Holden, executive vice president of the Tulsa Chamber of Commerce and secretary of the exposition; Frank J. Hinderliter, president of the Hinderliter Tool Co.; D. D. Wertzberger, president of the Wertzberger Derrick Co.; Alf G. Heggem, president of the Oilwell Equipment Co., and Mr. Way.

After some discussion, the dates of May 12 to 19, inclusive, were selected as the most convenient dates for the entire oil industry. By the unanimous vote of the committee, Mr. Way was again selected as general manager and ordered to proceed at once with plans for the show.

In discussing the plans for the oil exposition, Mr. Way said:

"I am confident that the directors and the executive committee of the International Petroleum Exposition were acting with a great deal of foresight at this time in calling for another show. At this time there is a general wave of reconstruction prevailing in the oil industry. Many producers are planning immediate improvement of their properties—refiners are contemplating extensive construction work and improvement of their buildings and equipment—and all of the oil industry is looking forward to much brighter times."

Mr. Way pointed out that the first show was held here in Tulsa in 1923, at which time the International Petroleum Exposition and Congress was founded. It was organized as a non-profit organization, in which all oil men, equipment men, and those interested directly or indirectly, were stockholders. Since that time the exposition has grown to be one of the largest shows of its kind in the world.

During past years representatives from virtually every nation in the world have attended the Tulsa show, and have placed exhibits in the exposition. The last show was held in October, 1930, and at that time the exposition was discontinued due to business conditions.

Downtown offices for the International Petroleum Exposition will be opened by the last of this week at 120 West Third Street. By that time Manager Way expects to have his organization formed, and to begin immediately mailing literature and publicity to all members of the great oil industry.

During the next few weeks large advertisements will be carried in the leading oil journals of the nation, the first of which appears in this issue of The Oil and Gas Journal.

Also within the next few weeks a crew of workmen will be placed at the exposition grounds, east of Tulsa, preparing the grounds, and reconditioning the buildings and equipment.

Safety Conference Hears Papers at Ranger, Texas

FORT WORTH, Tex., Nov. 27.—The third annual Oil Belt Safety Conference was held in Ranger, Tex., November 17. There were approximately 300 in attendance, men traveling from Fort Worth, Dallas and Wichita Falls to attend the meeting. Dr. E. R. Lederer, vice president of the Texas Pacific Coal & Oil Co., Fort Worth, was chairman.

J. R. Jarvis, general superintendent of the Lone Star Gas Co., Dallas, delivered a paper on "Accident Prevention from the Management Viewpoint." "The Safeguards Afforded Criminals in Texas" was a subject outlined by J. A. Bates, plant superintendent of the Lone Star Gasoline Co., Breckenridge. Grady Owen, district attorney of Eastland County, spoke on "Getting the Most from Life."

H. N. Blakeslee, petroleum safety engineer for the American Petroleum Institute, read a paper on "Safe Handling of Petroleum Products."

C. L. Hightower, head of the safety department of the Texas Pacific Coal & Oil Co., Fort Worth, and chairman of the petroleum section of the National Safety Council, also attended the meeting.

After the reading of each paper a 10-minute discussion was held, giving those selves in regard to the features treated in attendance a chance to express themin the papers.

Humble Co. Drilling Controlled Deflected Hole to Kill Wild Well in the Conroe Field

By NEIL WILLIAMS
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., Nov. 27.—Hazards attending the attempt now under way by Humble Oil & Refining Co. and several associated companies to kill or bring under control the Harrison & Abercrombie crater well in the Conroe Field have necessitated the provision of extensive precautions to safeguard the project and to insure the carrying out of the undertaking to the finish. By the facilities worked out by engineers for the companies, the operators now are prepared to take care of almost any emergency that might arise.

The present attempt, the first, to kill the well, and which consists of drilling a "relief" well with the hole deflected to a point in the producing sand near the bottom of the wild well into which will be pumped mud and water, is progressing rapidly. The relief well Sunday was drilling out the plug of the 13⅜-inch string of casing cemented at 1,435 feet. The hole was drilled vertically to the latter depth but from now on the bit will be guided in the direction of the bottom of the other well.

H. John Eastman, whipstocking specialist of California, who has been employed by Humble Oil & Refining Co. to have charge of the work of deflecting the hole, has been on the job since last Tuesday with three engineers he brought with him. In his contract he guarantees to place the bottom of the relief well in the sand within 100 feet of the bottom of the crater well. The Sperry-Sun Well Surveying Co. has been engaged to survey the hole as drilled.

Actual drilling of the relief well was started two weeks ago. A first string of surface pipe, consisting of 20-inch, was cemented at 397 feet with 458 sacks. The extra string of surface pipe is required, under Railroad Commission orders, to be run in all wells within a mile of any crater or blowout.

Location of the relief well is 427 feet northeast of the crater producer and on top of a hill which overlooks the crater and crater area. The bottom of the crater well is 5,097 feet. It is hoped that upon completion of the relief well with bottom in the sand within 100 feet of that well mud and water can be injected into the sand and production of the crater gradually choked off. This requirement will necessitate a deflection from vertical of about 6° 48′ in the portion of the relief well below 1,435 feet.

Lake of Oil

The open crater, a lake of oil approximately 150 feet across, and flowing unrestrained at this time more than 6,000 bbls. daily into a series of earthen reservoirs, presents a constant danger of fire from ignition of gas arising from it. As the crater and reservoirs extend over a wide area, nearly 15 acres, such a fire might be very disastrous.

Consequently, in all work which is done around the area and in connection with the attempt to kill the well, attention has been given to the prevention of fire. Not only this, facilities are in constant readiness to fight any fire which might start, and in event operators are not able to extinguish a blaze quickly, the set-up is such that the relief well can continue drilling without interruption and the work of choking off the flow from the sand finished.

The relief well is being drilled by the regular, standard sized equipment used by Humble Oil & Refining Co. in the Conroe Field. The only change made in the rig is that wooden guards have been substituted for the metal guards which cover the chain drives to lessen the possibility of any sparks. The derrick is the usual 122-foot steel type but a corrugated iron shield has been placed around the derrick at the fourble board for the protection of the derrickman and to enable him to continue work should the crater catch on fire. The ladder to the top of the derrick also has been protected with a metal shield. Two additional safety slide lines, making a total of three, have been provided for the derrickman. The entire layout is adequately lighted at night by a completely vapor proof lighting system.

General view of set-up in the first attempt to kill the crater well. At left, is the drilling relief well, whose hole will be deflected to the bottom of the crater well's hole. Between it and the crater is the corrugated iron fire shield. In the center background are the three foamite houses and the fire wall between them. At the right are the nine boilers

The drilling of the relief well is protected by a metal shield set up between the well and the crater. This shield is 40 feet high and constructed of corrugated iron sheeting, fastened on the crater side of three old steel stub derricks set up side by side. To cool the shield in the event of a fire, a water line has been fastened along the top edge and through perforations a spray of water can be directed against the entire face of the metal.

Blanket of Steam

A blanket of steam is kept over the crater producer at all times. This steam is generated by seven 180-horsepower boilers. Two additional 200 horsepower boilers provide steam for drilling operators for the relief well. Eight 2½-inch lines take the steam from a header system to the crater, more than 400 feet away. At the end of each line is a "T" on which are four nozzles and through these eight different nozzle connections placed at intervals around the crater, the steam is sprayed over the crater, the blanket sometimes rising to a heighth of 60 to 75 feet. All lines were made up away from the crater and dragged into place so that there would be no sparks around the crater area.

Fire Precautions

To extinguish a fire should the crater ignite, foamite mixing equipment capable of covering the 150-foot crater 1-foot deep in 11 minutes has been included in the layout. There are three foamite houses erected on the hill and at one side of the drilling relief well overlooking the crater. From each there are two 2½-inch lines, making a total of six lines, to the crater, and through each pair 275 gallons of water can be pumped per minute. As on the steam lines, the outlets for the various foamite lines are placed at intervals around the crater. On each outlet is a "T" shaped pipe, which serves as a mixing chamber for the foamite, the force of the water coming into the "T" providing agitation for the mixing. The foamite is injected into the systems through intakes on the lines in the houses. In each house is a large supply of the chemical.

The houses are erected in a row extending a distance of approximately 150 feet, and extending from one to the other is a 10-foot corrugated iron fire wall as a shield for the workers. As on the relief well shield, a water line has been placed along the top of the wall the entire length so that a spray of water can be directed against the face of the wall to keep it cool in the event of a fire.

The entire area and location of the relief well drilling operations is kept closely guarded from outsiders and only employes and those specially authorized are permitted to enter.

Although the undertaking to kill the crater well was initiated by Humble Oil & Refining Co. and operations are under the immediate direction of that company, three other companies since have joined in the project. These companies are Tide Water Oil Co., Texas Co. and Standard Oil Co. of Kansas. Another, Houston Oil Co., is negotiating to have a part. All companies in the field have been invited to share in the cost and in any future profits which may be derived.

The crater well, together with the 15-acre drilling unit on which it is located, was purchased several weeks ago from Harrison Oil Co. and J. S. Abercrombie Co., the joint owners. A consideration of $300,000 cash was paid with the provision that Harrison & Abercrombie retain title to all oil produced until the well is killed or placed under control. An article dealing with the crater well, and the producing conditions appeared in the November 2, 1933, issue of The Oil and Gas Journal.

View of crater well showing the blanket of steam being sprayed over it. The picture was taken just after the steam had been turned on and before the crater had become entirely covered

Supreme Court of Texas Halts Contempt Hearing

AUSTIN, Tex., Nov. 25.—The Supreme Court of Texas intervened to prevent Chairman Lon A. Smith and Members C. V. Terrell and Ernest O. Thompson, of the Texas Railroad Commission; R. D. Thompson, chief oil and gas supervisor of the commission, and Maurice Cheek, assistant attorney general, from being compelled to appear before District Judge W. W. McCrory, of San Antonio, Tex., November 28 on citations for contempt of court in connection with oil administration litigation.

The Supreme Court granted an order prohibiting Judge McCrory from taking further steps until directed by it. He had granted an injunction restraining the commission from interfering with Joe Burkett, receiver of No. 1 Edgar Cooper, Rusk County, in the producing of back-allowable oil. The commission later secured an injunction in Travis County District Court against Burkett, and then the San Antonio judge issued the contempt citation.

XUM

Source of Various Salts Recovered in The Texas Company's Refinery Explained by Geologist

By J. TERRY DUCE
Manager, Texas Petroleum Co.

NOTE—The Texaco Salt Products Co., subsidiary of The Texas Corp., over the past three years has operated a plant in West Tulsa, Okla., engaged in the manufacture of table salts, epsom salts, calcium chloride and bromine. The plant is operated in connection with the refinery of The Texas Co., the water from the well after the extraction operation being used in refinery processing. The waste heat from the refinery also is used in evaporating the brine from which the chemicals are obtained. The chemistry of this operation has been explained in previous articles appearing in The Oil and Gas Journal. In the accompanying article the author explains in simple terms the geology back of the salt plant operation. The article will appear in the Texaco Star.

The geologist peered down into the tank, where the air compressors at the Texaco salt plant were forcing the brine in splashes from the well. It foamed and glistened below the inlet pipe and then spread out under the tank roof into an expanse of brownish, murky water. He reached down and took a sample in the cup he carried and, turning to the stockholder said: "Taste it."

"Pretty salty," said the inquirer. Then, turning and looking over the rolling hills of eastern Oklahoma, he continued: "I wish you'd tell me how we happen to have brine here, and what it's like underground where this brine comes from. It seems queer that in the midst of these fertile lands, a thousand miles from the sea, we should have so much salt water. How did it all happen?"

"Well," said the geologist, "it's a long story, and we don't all agree on the details; but if you've got time to listen I may be able to tell you the outlines of the story."

"Go ahead," replied the inquirer, "but don't use too many ten-dollar words."

So this is the story the geologist told:

All Comes From Sea

"Geologists believe that almost all brines may be traced back to sea water. It is probable, however, that in the beginning of geological history, the ocean had very little salt in it. As rain water dissolved some of the minerals in the earth's rock, this was carried to the sea by rivers and streams. Gradually this mineral matter was concentrated to form the present sea water. Geologists and chemists find that rivers today carry almost 2,000,000,000 tons of mineral water in solution down to the sea every year. The sun evaporates the sea water and carries it back to the land again in clouds, where it falls as rain and again picks up its load of mineral salts. Thus the earth is really being slowly dissolved and carried down to the sea.

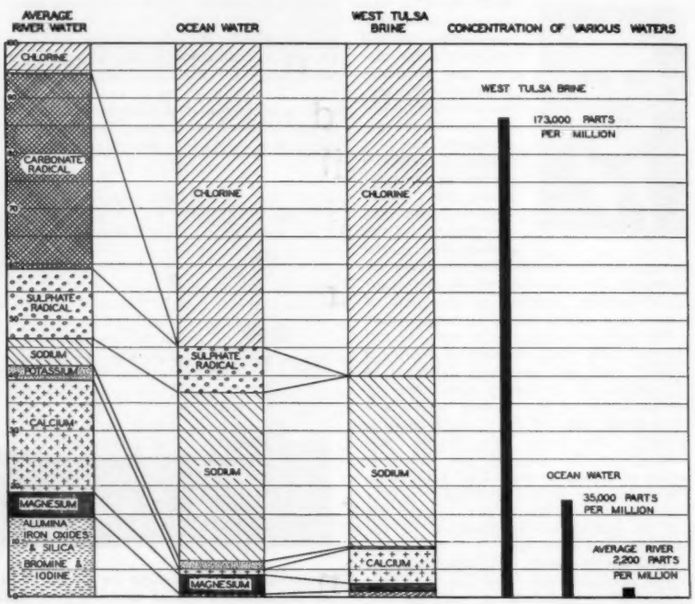
"Many of the substances which can exist in the very weak solutions of river water are precipitated out by the time it is concentrated to the strength of sea water, and the animals and plants that live in the sea help in this process. Calcium forms the bones of fish and the sea shells and the skeletons of corals, silica forms the skeletons of some sponges and the framework of the free-swimming plants — diatoms — while iron is an important constituent of the minute plants belonging to the algae.

"From these processes have been formed the limestones and iron ores of today. However, the more soluble substances remained behind in solution, and I have drawn a diagram to show the changes. First you can see the concentration of the salts in the river water, the sea, and the brine here at West Tulsa. Only 2,200 parts in every 1,000,000 parts of river water are solids, while in sea water 35,000 parts per million are solids. In the brine here there are 173,000 parts per million. Sea water is therefore about 17 times as concentrated as river water, while this brine is five times as strong as sea water. On the other hand, it is not quite so strong as some other natural brines we know of; for instance, the waters of the Great Salt Lake and of the Dead Sea.

Comparison of Waters

"In another part of the diagram I have compared the solids in the river and sea waters with the brine. You can see that if we start with river water, practically all the iron, silica, and alumina are abstracted by the time sea water is formed. Calcium, too, has almost disappeared to form limestones, taking along with it the carbonate. Sodium has much increased, along with chlorine, while the potassium and magnesium do not change much. We know a good deal about the reasons for some of these changes, but when it comes to details, we are much in the dark. So sea water is really formed by the natural evaporation of river water.

COMPARISON OF AVERAGE RIVER WATER, OCEAN WATER AND WEST TULSA BRINE ON BASIS OF PERCENTAGE COMPOSITION OF SALT CONTENT



"Now, let's look at the history of our West Tulsa brine. First we must go back to geologically Cambrian times. Eastern Oklahoma was a fairly level plain, whose surface was principally granite rock. At some time it was invaded by a sea, and a thin sandstone—the Reagan sandstone —was laid down on top of the granite. This was followed by a deepening of the sea and the deposition of a very thick limestone formation—the Arbuckle. On top of this came the Simpson formation, alternating limestones, sandstones, and shales.

"Then the sea withdrew and, in the Tulsa area, these formations were gradually worn down. At Tulsa the erosion almost reached the limestone. In some districts in northern Oklahoma, the Arbuckle was deeply eroded.

"Let us imagine ourselves back in the Tulsa area in late Devonian time. It was probably a low, rolling plains country, with the beginning of forests. The monarchs of the land were the insects, who were just beginning to appear. Under this plain surface, the ground-waters were busy on the limestone, and dissolved much of the more soluble parts of it, leaving it highly porous.

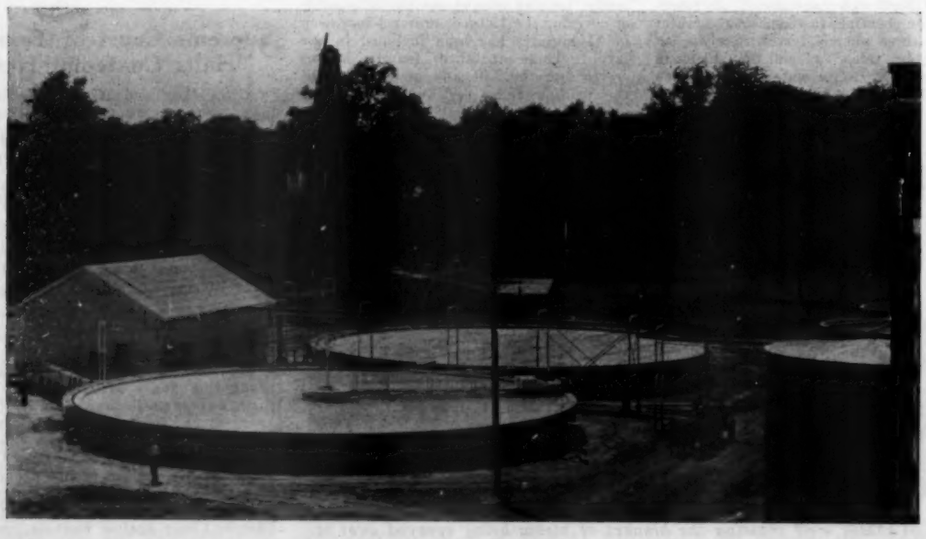
"Time passed, and in late Devonian or early Mississippian time the sea again invaded the area, and the sea water must have filled all the pores in the limestone, penetrating down it wherever erosion had reached. Finally in this sea was deposited a black mud, rich in organic matter, that now forms the Chattanooga shales, and which effectually sealed into the cavernous Arbuckle and the overlying Simpson the salt water circulating in them. On top of that, later seas laid down more sediments, and the whole country was gently folded. I have drawn a cross-section showing the story."

Not Like Sea Water

"But," interrupted the inquirer, "I looked at your diagram, and see that this water is quite different from sea water. It's more concentrated; there is more calcium in it and less magnesium, and the sulphate radical is missing."

"Well," responded the geologist, "we really don't know the reason for all these things, and in my explanation there will have to be many 'buts.' Why is the water more concentrated than sea water? Well, the original sea water may have been more concentrated. Then minerals may have absorbed part of the water, or,

(Continued on Page 40)



The brine from which Texaco salt products come is taken from this well. The vats in the foreground hold brine and magnesium "slurry"

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One Way or Another

While the industry at large is speculating upon whether there will be price fixing by government or price adjustment by balancing supply with demand, the immediately important point is overlooked, that, one way or the other, the basis of prices will be approximately as in the order that was to have become effective December 1.

That schedule was recommended by the Planning and Co-ordination Committee as representing cost or recovery and approved as such by the oil administration in its tentative order.

There has been nothing from the committee or the oil administration to suggest that it will be abandoned.

Those who think the delay means that price cutting will not be stopped also thought that overproduction of crude could not be checked.

The allocation of gasoline manufacture and stocks by refining districts is to be pressed as resolutely as the enforcement of the allocations on crude production. It is being put up directly to each refiner, subject to check by the responsible committees and officials charged with enforcement.

This is wholly different from previous general recommendations for curtailment, usually regarded as meant for the other fellow. Administrator Ickes has shown that he believes in action rather than resolutions.

The administrator and the Planning and Co-ordination Committee know what is needed. They are in practical agreement upon what should be done to stabilize the oil business.

The operations of the industry must recover cost or there can be no recovery. It has been made clear that if the industry cannot or will not agree upon such a schedule the government will order one which will be enforced by compulsory regulation of production.

But, as the official allocation of gasoline production and stocks shows we are going to have that compulsory regulation anyway, balancing of supply and consumption will adjust prices on a cost basis without Federal price fixing.

Either way there must be an end of below cost sabotage. The only question is whether the industry is going to have enough collective sense to get together and avoid forcing governmental control.

It seems hardly conceivable there can be legitimate differences of opinion within the industry of more weight than that risk.

The proceedings at Washington should, by this time, have convinced the most hopeful self-seeker in the business that there is not going to be any chance to put something over on competitors. Petty advantages and personal greeds must give place to the general welfare of the industry.

Those who cannot stay in the business unless they are allowed to continue practices which are unfair to the industry as a whole need not expect to be made exceptions. The whole purpose of the recovery code is to eradicate such abuses and establish fair competition.

If the industry wants to retain self-government on that basis of fair competition for all it should make its individual support evident at Washington.

It now has the opportunity, backed by the fullest co-operation of the Federal government, to effect the stabilization it has striven for over many years but which it has been unable to attain without Federal assistance.

Pipe Line Investigation

Secretary Ickes' approach to pipe line investigation is marked by the level-headed calmness which has been characteristic of his course as oil administrator.

In requesting the Petroleum Administrative Board to prepare to make a thorough investigation of pipe line operations the board was instructed that it "first must study carefully the procedure to be followed and the extent to which it may go". There is to be no license for wild asseveration and baseless sensationalism.

Meantime the Transportation Sub-Committee of the Planning and Co-ordination Committee representing the oil industry under the code is being consulted by Secretary Ickes for its suggestions and recommendations.

This should assure that the facts regarding the place and function of the pipe line in the oil industry, (as set forth in the April 13, 1933, issue of The Oil and Gas Journal) will not be lost sight of. Under the code this sub-committee is "charged with investigating petroleum transportation practices and rates and with recommending from time to time such action as may be appropriate to carry out the purpose of the recovery act."

These recommendations, representing the industry, must carry conclusive weight and dispose of unsupported allegations that cannot be substantiated.

Price-Shaving

Jobbers are reported to be allowing their stocks to run low with a view to avoiding loss on accumulations when the extra half cent Federal tax on gasoline is removed.

Refiners in consequence are being obliged to store part of their production that would normally be moving into the market. Some refiners, however, are reported trying to dispose of this stock by offering price inducements, always a shortsighted policy but particularly so just at this time.

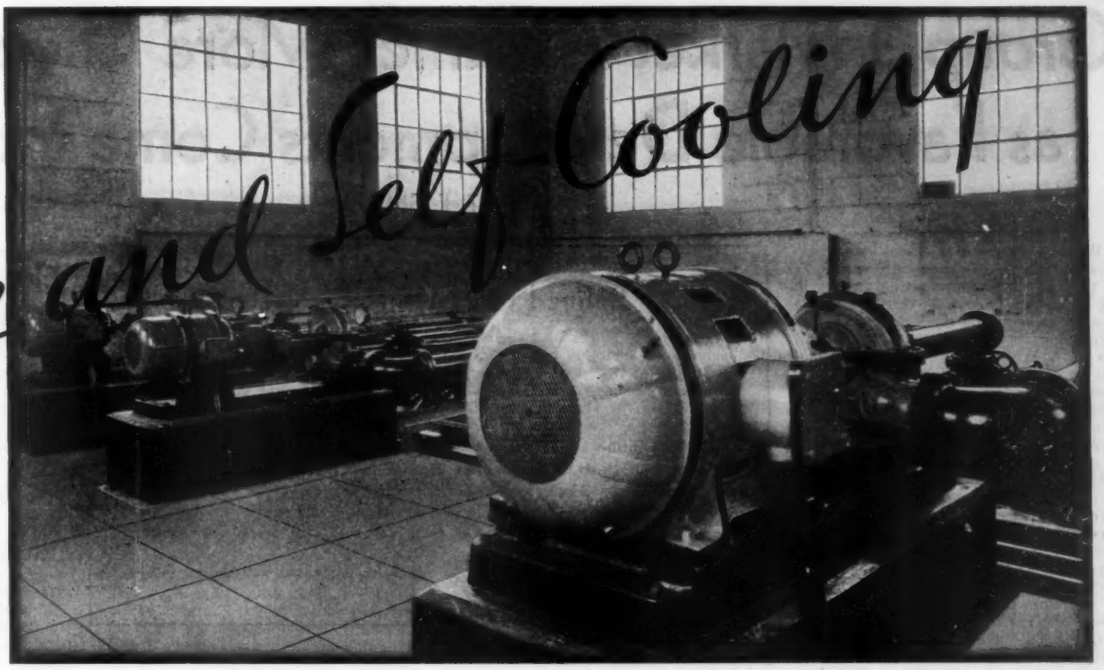
If, as seems practically assured, price schedules are finally adopted, either by the industry or by order of the oil administration, at approximately the figures projected for the original price fixing order, where will it leave these jobbers and refiners?

The jobber who is now emptying his tanks to escape a half cent loss will have to refill them at higher prices. The refiner, now obliged to store his gasoline because of jobber withdrawal from the market, will be the gainer. The refiner who now undersells to get rid of his product will be in the same boat as the near-sighted jobber.

The successful men in any industry or business are those who look ahead. The monetary price-shavers do not last. Their temporary profits soon vanish while the substantial and far seeing competitors gain in the long run.

NRA MEMBER U.S. WE DO OUR PART

Safe and Self-Cooling



Westinghouse 100-hp. Explosion-resisting Motor driving a pump in a Canadian refinery of Shell Oil, Limited.

Westinghouse Refinery Motors Now up to 200 hp.

YOU save the expense of protective fire walls . . . and eliminate the cost of complicated duct systems for carrying outside ventilating air to motors . . . when you install Westinghouse Explosion-resisting Refinery Motors.

Now available in capacities up to 200 hp., these motors operate safely in hazardous locations and are self-cooling . . . yet they are no larger than standard open motors of the same ratings.

Here are some of the reasons why Westinghouse Refinery Motors are standing up so well in refinery service:

Solid Unit-cast Frame—Assures permanent bearing alignment.

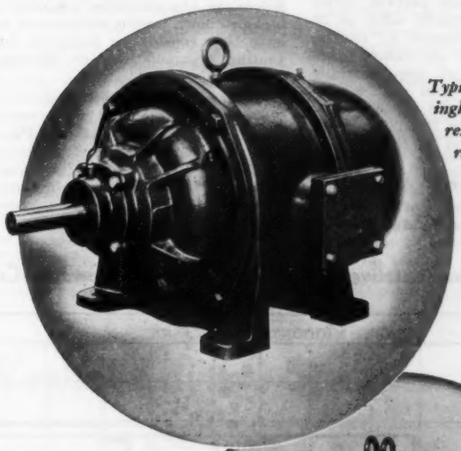
Efficient Cooling System—Positive circulation of internal and external air results in longer life of windings.

High Safety Factor—Designed to withstand the pressure resulting from any internal explosion.

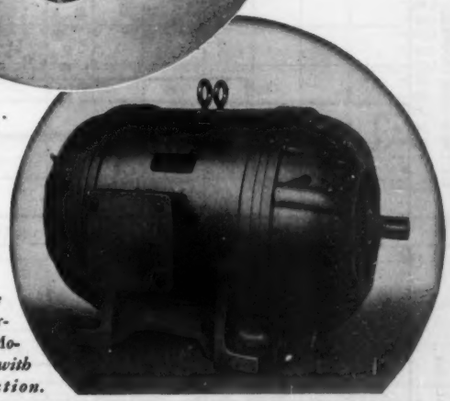
Weather-proof and Dust-proof—These motors will operate efficiently, without protective shelter or enclosure, indoors or out . . . rain or shine.

Westinghouse Explosion-resisting Motors are designed and built in accordance with the Underwriters' Specifications for use in Class 1, group D hazardous locations.

Let us send you further information. Simply mail the coupon or write the nearest Westinghouse office.



Typical design of Westinghouse Explosion-resisting Motors in ratings up to 40 hp.



Design of large Westinghouse Explosion-resisting Motors provided with Dual-Ventilation.

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Company .....

Position ..... T 79812

Address ..... OGJ 11-30-33

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Quality Workmanship guarantees every Westinghouse product

Group 3 Market Assumes More Cheerful Tone as Favorable Developments Come Into View

By T. F. SMILEY

Widely divergent opinions were expressed this week both with reference to the temper of the gasoline market in the Oklahoma (Group 3) territory at the present moment and concerning the probable trend between now and the end of the year. While a note of mild pessimism was heard here and there, the predominating view was that there had been improvement in the market tone since last week, with a likelihood of increasing strength as developments now in the making unfold.

In the forefront of reasons for expecting a sturdier quality of buying to take the place of the hesitancy and nervousness which have characterized the market for the last several weeks is a report from Washington that gasoline prices closely approximating those named by Secretary Ickes in his order of October 16 are likely to be put into effect, not on December 1, as originally proposed, but as soon as the whole situation has been canvassed by oil industry leaders and the administration in Washington.

The schedules of minimum prices contained in the Ickes order were arrived at after careful study, and according to the Washington report it is the unshaken intention to have these schedules, with minor modifications perhaps, established either by government edict or by a definite program adopted by the industry itself. Because government control is repugnant to oil men generally it is believed an agreement upon a plan that will accomplish the same results will be entered into by the industry itself, with the approval of the Government.

Discussing Character of Agreement

The question of what sort of agreement might be adopted by the oil men themselves to make governmental price-fixing unnecessary has stirred discussion. One Oklahoma refiner has suggested the practicability of the major refiners forming a pool for the purchase of all distress gasoline that might accumulate at any time. Such a plan of course would require strict limitation of refinery runs to insure its success. Even before the administration's reported plans became known leading refiners are said to have been considering measures for preventing accumulations of distress gasoline.

Softness in the Group 3 gasoline market appeared late last week, and sales of middle grade material at 4⅝ cents were reported, with third grade changing hands at 3⅝ and 3⅞ cents. The stocks of low-octane fuel in the East Texas area are understood to have been pretty well cleaned up by recent brisk buying. Gasoline stocks in East Texas are reported to have aggregated 500,000 bbls. only a few weeks ago, but heavy purchases for coastwise shipment have left relatively little of this material. There are still said to be top heavy stocks of this grade in Oklahoma, Kansas and North Texas, but not of such size as to constitute a serious market threat.

The fact that the half-cent Federal emergency tax on gasoline will be dropped January 1, 1934, and the Government will not refund to jobbers the tax on stocks held on December 31 continues to exercise a deterrent influence on large-scale buying, but it is beginning to lose some of its darker colors. One large refiner expressed the conviction conditions are assuming such shape it is quite conceivable that before the turn of the year gasoline prices might rise enough to reimburse the jobber for his forfeiture of the half-cent tax and yield a profit besides on gasoline stocks bought at the present level of prices.

Contributing to the steadier aspect of the market was said to be the closing down of many small refineries in various districts where production bears a close relation to Group 3 market conditions, particularly in spot buying. Curtailment of crude production is understood to have left some of these refineries without supplies for operation. As these plants in many instances have provided sources of cheap gasoline, their removal as active factors, at least temporarily, has a stabilizing effect.

Natural gasoline prices, which rose to a recent high of 5¾ cents for the 26-70 grade under the stimulus of heavy buying for winter motor fuel, are settling back to normal levels. The larger buyers are said to have filled their immediate demands. A fractional recession from the prices of last week on all grades was recorded with the market weak.

Increasing strength in gas oils was shown, with slightly higher prices than those of the preceding week. Distillates, already in a strong position, exhibited further stiffening, with inquiries far exceeding offerings. The heavy demand for distillates has had the effect of diverting some crude to the manufacture of that product which ordinarily would have been used in making kerosene, the result being that the kerosene market has been benefited. The demand for kerosene was reported to be pretty fairly balanced with the supply.

The demand for fuel oil continued firm, with signs of still greater strength. Neutral oils were steady, with no changes in quotations. Prices on bright and steam-refined stocks and wax were unchanged.

Refined Oil Market Barometer

Gasoline prices held their ground in most areas, with constructive developments inclining both refiners and jobbers to exhibit less haste in disposing of stocks. Fuel oils and distillates continued strong, with resultant increased firmness of the kerosene market. Natural gasoline sagged, with the tapering off of heavy buying. The aspect of the refined market generally is regarded as more cheerful.

Mid-Continent—Gasoline steadying. Natural gasoline weaker.

East Coast—Gasoline for both domestic and export movement weak.

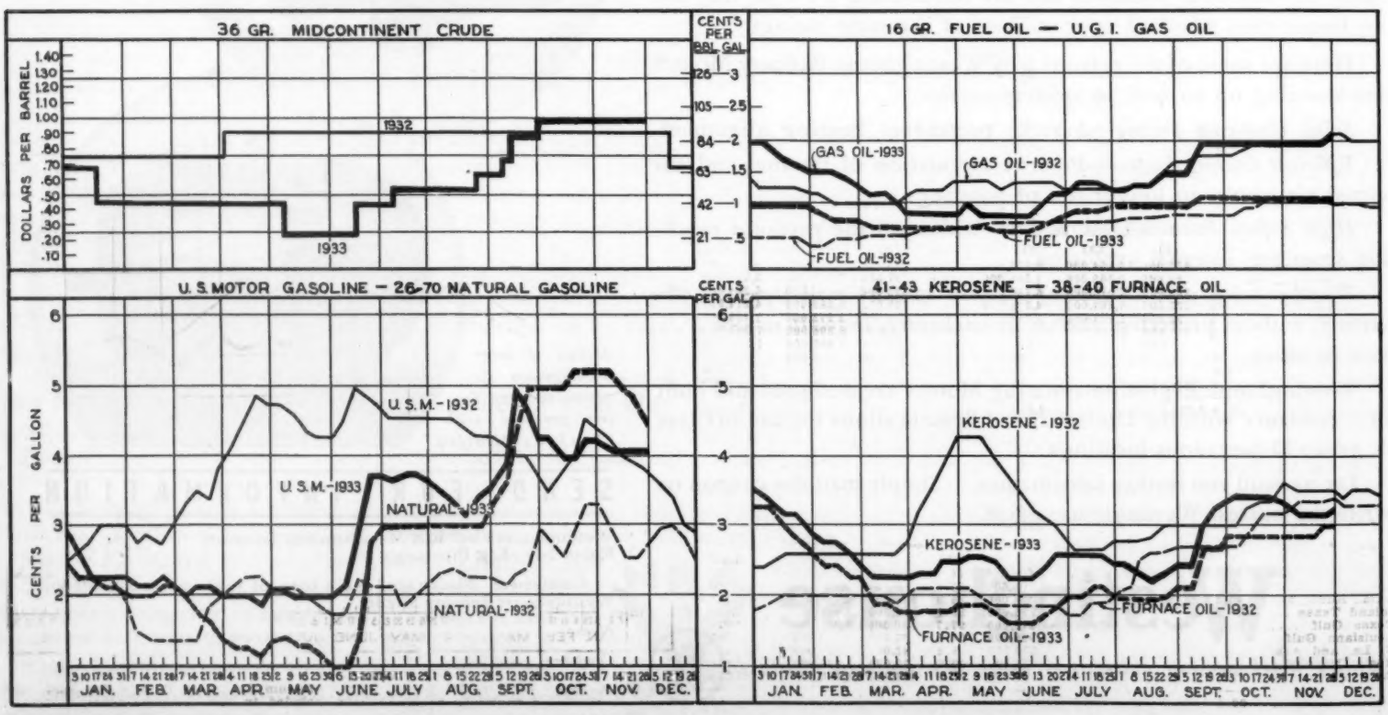
Gulf Coast—Gasolines stronger. Zero cold test fuels and gas oils strong.

Pennsylvania—Little change in either market tone or quotations.

California—Further effects of price war seen, but marketers planning cartel.

Chicago—Gasoline market improved, with decreased willingness to sell ahead.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



Weakness Shown in Eastern Gasoline Market; General Trade Waiting Code Developments

By C. O. WILLSON
New York Bureau, The Oil and Gas Journal

NEW YORK, Nov. 27.— Weakness was apparent in the gasoline market of this territory over the past week both for export and domestic movement. The major refiners had not changed their quotations in bidding for the foreign and local jobber business but other sellers were giving price concessions in an effort to stimulate sales.

In the domestic end, quotations as low as 6 cents were heard in tank car shipments of middle octane U. S. Motor gasoline and this price was being shaded at least one-fourth cent in the lower octane material. The major refiners in their direct quotation to jobbers were continuing to ask a low of 6¼ cents for 60-64 octane U. S. Motor gasoline and 6½ cents for the 65 and above octane material. The domestic gasoline market despite this evidence of weakness is not considered out-of-hand to the point where a general reduction on the part of the larger refiners is imminent. The general attitude is that the companies will wait and see the results of the latest move to improve conditions in the marketing end of the oil industry through a general control and curtailment of refinery operations.

Export Gasoline

In the export end several exporters continued to quote 6 cents at the Gulf on any foreign inquiries for the 64-66 375 endpoint grade of gasoline. Foreign buyers, however, reported bids as low as 5¾ cents from American sources of supply. It was also reported that Rumanian sellers were again quoting on business for Great Britain and France. The fact that Russia and Rumania have not been active in spot business in recent months has largely accounted for the strength shown in prices at the Gulf and active bidding of Rumania on shipments for January is not considered favorable. It is also stated that three concerns at the Gulf which have been moving the bulk of their gasoline coastwise are now active in the foreign market again due to the falling off in the domestic demand along the Atlantic Seaboard. One concern is reported to have offered U. S. Motor gasoline for export at 5¼ cents.

Mixed Attitude

The shift in the developments at Washington with at least a temporary postponement of all plans for the establishment of minimum prices for crude oil and the principal refinery products through all marketing outlets, was interpreted both bearishly and bullishly so far as refinery markets in this section were concerned. There are those who believe that unless the price structures from the refineries to the consumer are supported by some form of government price control not only will prices not be advanced from their present levels but it will not be possible to maintain the schedules that have been in effect for several weeks. They point to the price cutting already effective which if not stopped will in time threaten the present tank wagon and service station schedules. The provision that commodities shall not be sold below cost which is a general requirement of the NRA, is not sufficient, they contend, in the case of refinery products. They feel there must be some definite relationship between areas as to prices for products with established differentials covering spreads between tank car, tank wagon and service station prices in the case of gasoline.

On the other hand, there were many large and small factors in this area who were highly pleased with the postponement of hearings at Washington which they have interpreted to mean the end of the Government's plan of price control announced October 16 to become effective December 1. Some have been opposed to price fixing from the start based on an economic principle, while the opposition of others has developed as they studied the practical phases of the plan suggested for the oil industry. At least one feature of the plan was objectionable to practically everybody and even those who favor the general principle of price control were seeking changes in one or more of the provisions.

The pro and con of this discussion which have often become heated among those engaged in marketing is now being supplanted with arguments as to the feasibility of the substitute plan for price control. The details of this plan had not been announced at this writing. In general it is known that the plan centers in a proposal to curtail refinery operations to the point where a healthy market situation will result which in turn will do away with the necessity of a formal price control program. It is known that the project goes into far more detail than has ever been attempted in any previous plan to end an overproduction of refinery products. Plans of this nature in the past have stopped after allocations had been given to certain areas, no provision being made to see that this reduction in operations was divided equitably and enforced among the refiners having plants in the several areas. The program sponsored by a few major companies opposed to any and all types of price fixing and offered last week at Washington as a substitute for the Government's plan, is based on a thorough study of consumptive requirements with an allocation of production which, it is understood, extends to the smallest refiner. Its sponsors feel that if adopted, and the Government aids in its enforcement, the weak spots in the present refinery market will be eliminated and no further difficulty will be experienced in maintaining present prices with higher quotations in prospect as soon as the success of the control plan is assured.

One objection, raised by those who favor price control by the Government, is based on the contention that regardless of how far the industry goes in the crude oil production and refinery operations, the price cutter in the retail end of gasoline and some of the other products will continue to undersell those who establish prices in line with the general cost of doing business. The answer of those behind the present plan is that the elimination of excess gasoline will to a large extent eliminate the operations of the price cutters. It is claimed for instance that these dealers and jobbers have been able to undersell in the case of gasoline because they have purchased excess products at distress prices.

It is pointed out that these operators did not become a serious factor in the oil business until excess crude production became a chronic condition, accompanied by the entry of the bootlegger who brought cheap raw material to a few refiners who in turn were in a position to undersell in refinery shipments. Eliminate this condition and it is contended you will "dry up" the sources of supply and in consumer markets you will return to the price conditions that prevailed a few years ago when the crude oil and refinery markets were tight due to the fact that the demand for crude exceeded the current supply. Right or wrong the foregoing appears to be the basis around which the next move to stabilize the oil industry will be centered.

Reduction In Stocks

The above plan is tied in with the publicly announced request that gasoline stocks be reduced to 51,000,000 bbls. At this writing the program of refinery operations for December to accomplish this objective which means a reduction of more than 1,000,000 bbls. of gasoline stocks had not been announced. In this area, which includes all refineries located in Atlantic Seaboard states except western New York and western Pennsyl-

(Continued on Page 40)

American Petroleum Institute Weekly Refinery Statistics

Figures below reported for week by American Petroleum Institute. (1) Per cent refinery capacity represented. (2) Daily average crude runs to stills. (3) Total motor fuel stocks. (4) Gas oil and fuel oil stocks. All figures in 42-gallon barrels.

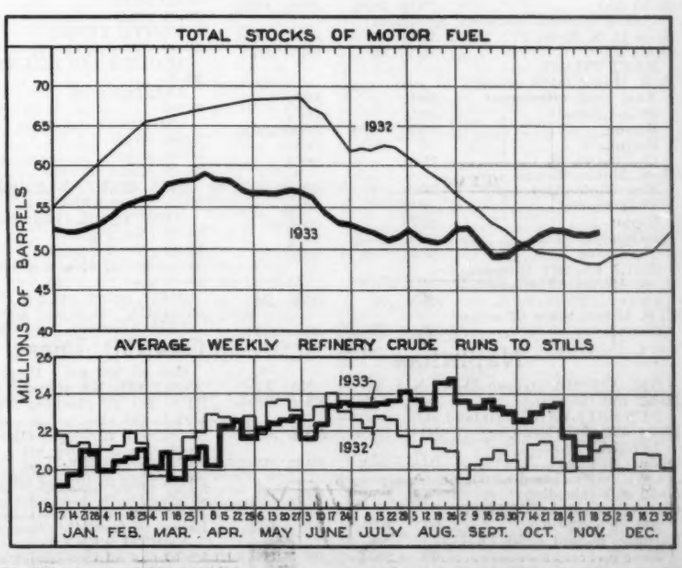
Week Ending November 25, 1933, Compared to Week Ago

	Week Ending Nov. 25, 1933				Week Ending Nov. 18, 1933			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	452,000	14,154,000	8,213,000	100.0	446,000	14,298,000	8,440,000
Appalachian ...	92.6	94,000	2,163,000	1,905,000	92.6	97,000	2,106,000	1,015,000
Ind., Ill, Ky. ..	97.3	302,000	7,075,000	6,106,000	97.3	333,000	7,044,000	6,208,000
Okla., Kans., Mo.	82.1	221,000	5,601,000	4,224,000	82.1	228,000	5,589,000	4,214,000
Inland Texas ...	60.2	92,000	1,307,000	1,755,000	60.2	86,000	1,273,000	1,775,000
Texas Gulf	98.1	433,000	5,009,000	7,219,000	98.1	415,000	5,396,000	7,206,000
Louisiana Gulf..	100.0	105,000	1,378,000	1,999,000	100.0	85,000	1,307,000	2,123,000
N. La. and Ark.	92.6	51,000	235,000	570,000	92.6	52,000	229,000	538,000
Rocky Mtn.	78.8	32,000	868,000	724,000	78.8	40,000	859,000	725,000
California	96.9	428,000	14,138,000	94,503,000	96.9	404,000	14,101,000	95,234,000
Total U. S. ..	92.4	2,210,000	51,934,000	126,318,000	92.4	2,196,000	52,102,000	127,528,000

Total motor fuel stocks, Bureau of Mines basis, 53,730,000 bbls.

Week Ending November 25, 1933, Compared to Year Ago

	Week Ending Nov. 25, 1933				Week Ending Nov. 26, 1932			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	452,000	14,154,000	8,213,000	99.1	445,000	11,768,000	8,277,000
Appalachian ...	92.6	94,000	2,163,000	1,905,000	95.0	89,000	1,724,000	759,000
Ind., Ill, Ky. ..	97.3	302,000	7,075,000	6,106,000	97.5	319,000	6,326,000	3,862,000
Okla., Kans., Mo.	82.1	221,000	5,601,000	4,224,000	85.2	195,000	4,721,000	2,821,000
Inland Texas ...	60.2	92,000	1,307,000	1,755,000	59.2	91,000	1,427,000	2,134,000
Texas Gulf	98.1	433,000	5,009,000	7,219,000	97.7	390,000	5,715,000	9,156,000
Louisiana Gulf..	100.0	105,000	1,378,000	1,999,000	97.3	91,000	1,387,000	3,319,000
N. La. and Ark.	92.6	51,000	235,000	570,000	88.5	43,000	237,000	506,000
Rocky Mtn.	78.8	32,000	868,000	724,000	90.8	32,000	1,089,000	443,000
California	96.9	428,000	14,138,000	94,503,000	94.6	423,000	14,790,000	100,248,000
Total U. S. ..	93.4	2,210,000	51,934,000	126,318,000	91.9	2,126,000	48,084,000	132,526,000



Data based on weekly reports of American Petroleum Institute. Figures for week just ended not shown in graph but are included in accompanying table.

XUM

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

EXCLUSIVE OF TAXES

The following quotations are exclusive of the Federal excise taxes of 1½ cents a gallon on gasoline and 4 cents on lubricating oils, which became effective June 17, 1933.

Refinery Gasolines

OKLAHOMA (Group 3)—	Nov. 28		Nov. 21	
*U. S. Motor grades:				
Third grade	.04⅛	.04⅜	.04⅛	.04⅜
Regular	.04⅞	.05⅜	.04⅞	.05⅜
Premium	.05½	.05¾	.05½	.05¾
60-62 400 grades:				
Third grade	.04¼	.04½	.04¼	.04½
Regular	.05	.05½	.05	.05½
Premium	.05⅝	.05¾	.05⅝	.05¾
64-66 390	.04⅝	.05	.04⅝	.05
64-66 375	.04⅞	.05⅛	.04⅞	.05⅛
68-70 350	.05⅛	.05¼	.05⅛	.05¼
NORTH TEXAS—				
U. S. Motor grades:				
Third grade	.04	.04¼	.04	.04¼
Regular	.04½	.04⅞	.04½	.04⅞
Premium	.05¼	.05½	.05¼	.05½
60-62 400	.04¼		.04¼	
64-66 390	.04⅝		.04⅝	
64-66 375	.05		.05	
64-66 360	.05⅛	.05¼	.05⅛	.05¼
†NORTH LOUISIANA—				
U. S. Motor grades:				
Third grade	.04¾		.04¾	
Regular	.05½		.05½	
Premium	.06		.06	
60-62 400	.04½		.04½	
†ARKANSAS—				
U. S. Motor grades:				
Third grade	.04¾		.04¾	
Regular	.05⅝		.05⅝	
Premium	.06		.06	
CHICAGO (based on Oklahoma Group 3)—				
U. S. Motor grades:				
Third grade	.04⅛	.04¼	.04	.04¼
Regular	.04⅞	.05	.04⅞	.05
Premium	.05¼	.05½	.05¼	.05½
60-62 400	.04¼	.04⅜	.04⅛	.04⅜
64-66 375	.05	.05¼	.05	.05¼
68-70 360	.05¼	.05½	.05¼	.05½
Aviation fighting grade	.05⅝	.05⅞	.05⅝	.05⅞

*Octane Ratings—The following octane ratings apply to the three grades of U. S. Motor gasoline: Regular 60-64 octane number, premium 65 and above octane number; third grade, 59 and below octane number. Octane ratings determined by C.F.R. Motor Method.

†For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
58-62 U. S. Motor:				
Below 60 octane	.05½		.05½	
60-64.9 octane	.06⅝		.06⅝	
65-69.9 octane	.07		.07	
70 octane and higher	.07⅜		.07⅜	
64-66 375	.06	.06¼	.06	.06¼
68-70 350	.06½	.06¾	.06½	.06¾
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.04¾	.06½	.05	.06½
58-60 400	.05½	.07	.06	.07
EAST COAST—				
U. S. Motor, 60-64 octane:				
New York (Bayonne)	.06¼		.06¼	
Philadelphia	.06¼		.06¼	
Boston	.0640	.06½	.0640	.06½
Baltimore	.06	.06¼	.06¼	
Charleston, S. C.	.06¼		.06¼	
U. S. Motor, 65 and above:				
New York (Bayonne)	.06½		.06½	
Philadelphia	.06½		.06½	
Boston	.0670		.0670	
Baltimore, Md.	.06¼	.06½	.06½	
Charleston, S. C.	.06½		.06½	
GULF COAST (domestic)—				
U. S. Motor, 65 octane and above	.05¾	.06	.05¾	.06
U. S. Motor, below 65 octane number	.05	.05¼	.05	.05¼

Naphthas

OKLAHOMA (Group 3)—	Nov. 28		Nov. 21	
50-52 450 (blending)	.04⅛	.04¼	.04¼	.04½
PENNSYLVANIA (inland refineries)—				
50-54 430-450 (blending)	.05⅜	.05⅝	.05⅜	.05⅝
†ARKANSAS—				
48-50 (blending)	.04½	.04¾	.04½	.04¾
CHICAGO (based on Oklahoma Group 3)—				
50-52 450 (blending)	.04⅜	.05	.04½	.05
Cleaners' naphtha, 56-58 gr., 200 i.b.p.-320 e.p.	.07	.07⅜	.07	.07¼
Lacquer diluent, 180 i.b.p.-250 e.p.	.08	.08¼	.08	.08¼
Lacquer diluent, 140 i.b.p.-200 e.p.	.09	.09¼	.09	.09¼
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.07⅛	.07½	.07	.07¼
Stoddard solvent, 300 i.b.p.-410 e.p., over 83° flash	.06¼	.06½	.06¼	.06½
Pet. thinner, 290-300 i.b.p.-415 e.p. over 83° flash	.06	.06¼	.06	.06¼
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.06⅜	.06⅝	.06⅜	.06⅝
Petroleum spirits	.05⅜	.05⅝	.05⅜	.05½

Natural Gasolines

OKLAHOMA (Group 3)—	Nov. 28		Nov. 21	
Grade 18-55	.05¾	.06	.05⅞	.06⅛
Grade 26-70	.04½	.04¾	.05	
Low vapor pressure grades:				
15 lb. v.p. (max.)	.06⅛	.06½	.06⅛	.06½
11 lb. v.p. (max.)	.06		.06½	.06¾
NORTH TEXAS—				
Grade 18-55	.05½	.05⅝	.05⅞	.06
Grade 26-70	.04½	.04⅝	.04⅞	.05
Low vapor pressure grades:				
15 lb. v.p. (max.)	.05¾	.06	.06⅛	.06¼
11 lb. v.p. (max.)	.06		.06⅜	.06½
NORTH LOUISIANA—				
Grade 26-70	.05½		.05⅜	
CALIFORNIA—				
75-85 375	.04½	.05¼	.05	.06

Kerosenes

(All kerosenes water white)

OKLAHOMA (Group 3)—	Nov. 28		Nov. 21	
41-43	.03¼	.03½	.03¼	.03⅜
42-44	.03½	.03⅝	.03½	.03¾
NORTH TEXAS—				
40-41	.03⅛	.03¼	.03⅛	.03¼
41-43	.03¼	.03⅜	.03¼	.03⅜
†NORTH LOUISIANA—				
41-43	.03¾		.03¾	.04
42-44	.04		.04	
†ARKANSAS—				
41-43	.03¾		.03¾	
PENNSYLVANIA (inland refineries)—				
45	.04¾		.04¾	.05
46	.05		.05	.05¼
47	.05¼		.05¼	.05½
CHICAGO (based on Oklahoma Group 3)—				
41-43	.03¼	.03½	.03¼	.03½
42-44	.03⅜	.03⅝	.03⅜	.03⅝
*CALIFORNIA—				
38-40 high burning test	.04¼	.04¾	.04¼	.04¾
NEW YORK (Bayonne, N. J.)—				
41-43	.05¼	.05½	.05¼	.05½
GULF COAST (domestic)—				
41-43 water white	.04½	.04¾	.04½	.04¾

*For Pacific Coast consumption.

†For Arkansas, Louisiana and Mississippi delivery.

Furnace Oils and Tractor Fuels

OKLAHOMA (Group 3)—	Nov. 28		Nov. 21	
32-36 straw	.03	.03⅛	.03	.03⅛
36-38 straw	.02⅞	.03	.02⅞	.03
38-40 straw	.03	.03⅛	.03	.03⅛
39-41 prime	.03⅛	.03¼	.03⅛	.03¼
NORTH TEXAS—				
38-40 straw	.02⅝	.02¾	.02⅝	.02¾
†NORTH LOUISIANA—				
36-40	.03		.03	
†ARKANSAS—				
32-36	.03		.03	
CHICAGO (based on Oklahoma Group 3)—				
32-36 straw	.03	.03⅛	.03	.03⅛
38-40 straw	.03	.03⅛	.03	.03⅛
38-40 prime white	.03⅛	.03¼	.03⅛	.03¼
PENNSYLVANIA (inland refineries)—				
40-41 prime white	.04⅜	.04½	.04⅜	.04½
NEW YORK (Bayonne, N. J.)—				
36-40 (No. 1 grade)	.05½		.05½	
32-36 (No. 2 grade)	.04½		.04½	
21 industrial (No. 4 grade)	.04		.04	

Above prices are for distillate oils of zero cold test under 190° flash and good odor.

†For Arkansas, Louisiana and Mississippi delivery.

Gas Oil, Diesel Oil and Fuel Oil

Gas oil per gal.; Diesel and fuel oils, per bbl.

OKLAHOMA (Group 3)—	Nov. 28		Nov. 21	
32-36 gas oil cracking stock	.01⅞	.02⅛	.01⅞	.02⅛
U.G.I. gas oil	.02⅛		.02	
32-36, zero to 15 gas oil	.02¾	.03	.02¼	.02⅜
28-30, No. 3 burner oil	.1.05	1.10	1.05	1.10
28-30 zero to 10 fuel oil	.95	1.00	.95	1.00
26-30, zero to 10 fuel oil	.85	.95	.85	.95
24-26 fuel oil	.62½	.65	.62½	.65
20-22 fuel oil	.55	.60	.55	.60
Below 16 fuel oil	.50	.55	.50	.55
NORTH TEXAS—				
32-36 gas oil, industrial	.02		.02	
22-26 fuel oil	.57½	.62½	.57½	.62½
Below 20 fuel oil	.47½	.50	.47½	.50
†NORTH LOUISIANA—				
32-36 gas oil, zero	.03		.03	
14-16 fuel oil	.55	.60	.55	.60
†ARKANSAS—				
30-32 gas oil, zero	.02¾		.02¾	
32-36 furnace oil	.03		.03	
14-16 fuel oil	.50		.50	
CHICAGO (based on Oklahoma Group 3)—				
32-36 gas oil, industrial	.01⅞	.02	.01⅞	.02
28-30 (zero) fuel oil	.92½	1.02½	.92½	1.02½
26-28 (zero) fuel oil	.77½	.82½	.77½	.82½
22-26 (zero) fuel oil	.67½	.70	.65	.70
18-22 (zero) fuel oil	.60	.65	.60	.65
Below 18 fuel oil	.40	.45	.40	.45

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel less in all areas than shown in above tables.

†For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
36-40	.04⅛		.04⅛	.04¼
CALIFORNIA—				
30-34 gas oil per bbl.	.90	1.00	.90	1.05
27 plus Diesel	.90	1.00	.90	1.00
15-19 bunker (at tidewater)	.55	.65	.55	.65
15-19 (cargo lots)	.55	.65	.55	.65
15-19 (tank cars)	.45	.65	.45	.65
GULF COAST—				
28-30 gas oil	.03¾		.03½	
28-30 Diesel	1.80		1.80	
Bunker C (bulk cargoes)	.92½	.95	.92½	.95
Bunker C (bunkers)	.95		.95	
NEW YORK (Bayonne, N. J.)—				
28 plus, gas oil	.04	.04½	.04½	
28-30 Diesel (lighterage 6½ cents per bbl.)	1.95		1.95	
28-30 Diesel (tank cars)	.04½		.04½	
*Bunker C (to ocean-going ships in N. Y. harbor)	1.10		1.10	

*Lighterage charge 5 cents per barrel additional.

Petroleum Coke*

Prices per ton f.o.b. refineries in Chicago area.

	Nov. 28		Nov. 21	
Breeze (screenings)	4.50		4.50	
Still run	5.50		5.50	
Direct from still	6.50		6.50	
Lump and egg	7.50	7.75	7.50	7.75

*Refiners will absorb freight to 80 cents a ton.

Neutral Oils

(Vis. at 100° F. unless otherwise stated, and color N.P.A.)

OKLAHOMA (Group 3)— Zero to 10 Cold Test:	Nov. 28		Nov. 21	
150-3	.07¼	.07½	.07¼	.07½
180-3	.08½	.08¾	.08½	.08¾
180-4	.08¼	.08½	.08¼	.08½
200-3	.09	.09¼	.09	.09¼
200-4	.08¾	.09	.08¾	.09
240-3	.11	.11¼	.11	.11¼
240-4	.10¾	.11	.10¾	.11
280-3	.12	.12¼	.12	.12¼
280-4	.11½	.11¾	.11½	.11¾
300-3½	.12¾	.13	.12¾	.13
350-3½	.13¾	.14	.13¾	.14
400-4	.14¾	.15	.14¾	.15
500-4½	.15¾	.16	.15¾	.16
100-2 paraffin oil	.05¼	.05½	.05¼	.05½
15-30 Cold Test:				
200-3	.08¼	.08½	.08¼	.08½
200-4	.08	.08¼	.08	.08¼
240-3	.10¼	.10½	.10¼	.10½
240-4	.10	.10¼	.10	.10¼
280-3	.11¼	.11½	.11¼	.11½
280-4	.11	.11¼	.11	.11¼
GULF COAST—				
Pale Oils:				
200-3	.06¼	.06½	.06¼	.06½
300-3	.07	.07½	.07	.07½
500-3½	.07¾	.08¼	.07¾	.08¼
750-3½	.08½	.09	.08½	.09
1,200-3½	.09⅜	.09½	.09⅜	.09½
2,000-4	.10	.10½	.10	.10½
Red Oils:				
200-5-6	.05½		.05½	
300-5-6	.06	.06½	.06	.06½
500-5-6	.06¾	.07¼	.06¾	.07¼
750	.07½	.08	.07½	.08
1,200-5-6	.08¼	.08¾	.08¼	.08¾
2,000-6 plus	.09½	.09¾	.09½	.09¾
CALIFORNIA—				
Pale Oils:				
100-2½-3	.23	.25	.23	.25
200-2½-3	.23	.25	.23	.25
300-3-3½	.23	.25	.23	.25
350-3-4	.23	.25	.23	.25
400-3-4	.23	.25	.23	.25
450-3-4	.23	.25	.23	.25

550-3-4	.23	.25	.23	.25
600-3-4	.23	.25	.23	.25
Red Oils:				
200-4-5	.23	.25	.23	.25
300-5-6	.23	.25	.23	.25
350-5-6	.23	.25	.23	.25
400-5-6	.23	.25	.23	.25
450-5-6	.23	.25	.23	.25
500-5-6	.23	.25	.23	.25
600-5-6½	.23	.25	.23	.25
700-6½ plus	.23	.25	.23	.25
750-6½ plus	.23	.25	.23	.25
900-6½ plus	.23	.25	.23	.25
PENNSYLVANIA—				
150 vis. at 70° F., No. 3, 400-405:				
Zero pour test	.16½		.16	.16½
10 pour test	.16		.15½	.15¾
15 pour test	.15		.14	.14¼
25 pour test	.14¼		.13	.13¼
180 vis. at 70° F., No. 3, 25 pour test	.17¼		.16¾	.17
200 vis. at 70° F., No. 3:				
Zero pour test	.22		.21½	.21¾
10 pour test	.21		.20½	.20¾
15 pour test	.20		.19½	.19¾
25 pour test	.19¾		.19¼	.19½

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	Nov. 28		Nov. 21	
630 light green	.09½	.12	.09½	.12
600 light green S.R.	.07	.09	.07	.09
600 dark green S.R.	.05	.07	.05	.07
Bright Stocks:				
190-200 D	.24	.25	.24	.25
150-160 D, 0-10	.22¼	.22½	.22¼	.22½
150-160 D, 10-25	.21¾		.21¾	
150-160 D, 25-40	.21¼		.21¼	
150-160 E	.20½		.20½	
PENNSYLVANIA—				
600 S.R.	.15½		.16	.16¼
650 S.R.	.18	.18½	.18	.18¼
600 Pennsylvania flash	.19¾		.19	.19¼
650 D filtered	.23¾	.24	.23¾	.24
600 E filtered	.19¼	.19½	.19¼	.19½
Pennsylvania Grade bright stock:				
No. 8 color, 145-50 at 210; 540-550 flash:				
10 pour test	.27½		.27½	.27¾
15 pour test	.26	.26½	.26	.26½
20 pour test	.25¼	.25¾	.25¼	.25¾
25 pour test	.25	.25½	.25	.25½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	Nov. 28		Nov. 21	
124-126 white crude scale	.03¾		.03¾	
PENNSYLVANIA—				
122-124	.0415	.0420	.04⅛	
124-126	.0420	.0425	.04¼	.04½
NEW YORK HARBOR—				
124-126 crude scale	.04	.04⅛	.04	.04⅛
Fully refined wax, in bags:				
120-122 (a.m.p.)	.0430		.0430	
123-125 (a.m.p.)	.0445		.0445	
125-127 (a.m.p.)	.0455		.0455	
130-132 (a.m.p.)	.0495		.0495	
133-135 (a.m.p.)	.0555		.0555	
135-137 (a.m.p.)	.0580		.0580	

Petrolatum in barrels in carload lots:

Dark green	.01⅞	.02	.01⅞	.02
Amber	.02⅞	.03	.02¾	.03
Extra amber	.03⅛	.03¼	.03	.03¼
Lily white	.06¾	.06⅞	.06¾	.06⅞
Snow white	.07¾	.07⅞	.07¾	.07⅞
Cream	.05⅝	.05¾	.05⅝	.05¾
CHICAGO (f.o.b. switching district)*—				
122-124	.0465	.0475	.0440	.0450
125-127	.0490	.0500	.0465	.0475
127-129	.0505	.0515	.0480	.0490
130-132	.0565	.0575	.0540	.0550
132-134	.0590	.0600	.0565	.0575

*Cents per pound on carlot orders in burlap bags of 225 lbs. approx. Add 3° F., a.m.p.

Export Prices

GASOLINE

GULF COAST—	Nov. 28		Nov. 21	
U. S. Motor	.05¼	.05⅜	.05½	.05⅜
60-62 400	.05½	.05⅝	.05¾	
61-63 390	.05⅝	.05¾	.05¾	
64-66 375	.05¾	.06	.05⅞	.06
LOS ANGELES, CALIF.—				
U. S. Motor grades:				
53-55 octane	.04½	.05	.04½	.05
55-65 octane	.05	.05¼	.05	.05¼
65-67 octane	.05½	.06	.05½	.06
67-69 octane	.06¼	.06¾	.06¼	.06¾
Above 69 octane	.07	.08	.07	.08
58-60 400 endpoint	.05¼	.06¼	.05¼	.06¼
KEROSENE				
GULF COAST—				
41-43 prime white	.04¼		.04¼	
41-43 water white	.04⅜		.04⅜	
44 water white	.04⅝		.04⅝	
LOS ANGELES, CALIF.—				
41-43 water white	.03¾	.04¼	.03¾	.04¼
LUBRICANTS				
NEW YORK (f.a.s. in bbls.)—				
600 Warren E	.25½	.26½	.25½	.26½
600 S.R. unfiltered	.22½	.23½	.22½	.23½
650 S.R. unfiltered	.24½	.25½	.24½	.25½
600 flash S.R.	.25½	.26½	.25½	.26½
630 flash S.R.	.29½	.30½	.29½	.30½
Bright stock, No. 8 color	.31½	.32½	.31½	.32½
Bright stock, No. 6½ color, dil.	.30½	.31½	.30½	.31½
NEUTRALS				
NEW YORK—Pale Engine Oil, Bulk (vis. at 100)—				
100-2½	.06½	.07	.07½	.08
180-3¼	.12	.13	.12	.13
230-3¾	.13	.14	.13	.14
Red Engine Oil, Bulk (vis. at 100):				
200-6	.07½	.08½	.07½	.08½
250-6	.08	.08¾	.08	.08¾
300-6½	.09	.09½	.09	.09½
PARAFFIN WAX (Fully Refined)				
NEW YORK (prices per pound)—				
120-122 a.m.p.	.04¼		.04¼	
123-125 a.m.p.	.04⅜		.04⅜	
125-127 a.m.p.	.04½		.04½	
130-132 a.m.p.	.05		.05	
133-135 a.m.p.	.05½		.05½	
135-137 a.m.p.	.05¾		.05¾	

Crude Oil Gravity Table

Degrees gravity—	1 Oklahoma and Kansas	2 North Texas, Central Texas and East Central Texas	3 North Louisiana and Arkansas	4 Gray County, Texas	5 Carson, Hutchinson and Moore Counties, Texas	6 Conroe, Texas	7 Salt Creek, Wyo.	8 Gulf Coast, Texas and Louisiana	9 Gulf Coast, Texas and Louisiana	10 Caddo, Louisiana	11 Saline-De Soto, Louisiana	12 Homer, Louisiana	13 Sarepta-Carterville, Louisiana	14 El Dorado, Arkansas	15 Haynesville, Louisiana	16 Miller County, Arkansas	17 Cotton Valley, Louisiana
Below 20	....	....	....	....	....	....	....	$.82	$.82	....	....	....	....	....	....	....	....
20-20.9	....	....	....	....	....	....	....	.84	.84	....	....	....	....	....	....	....	....
21-21.9	....	....	....	....	....	....	....	.86	.86	....	....	....	....	....	....	....	....
22-22.9	....	....	....	....	....	....	....	.88	.88	....	....	....	....	....	....	....	....
23-23.9	....	....	....	....	....	....	....	.90	.90	....	....	....	....	....	....	....	....
24-24.9	....	....	....	....	....	....	....	.92	.92	....	....	....	....	....	....	....	....
Below 25	*$.76	....	....	....	....	....	....	....	....	$.63	$.69	$.71	$.75	$.75	$.65	$.62	$.70
25-25.9	*.78	....	....	....	....	....	....	.94	.94	.65	.71	.73	.77	.77	.67	.64	.72
26-26.9	*.80	....	....	....	....	....	....	.96	.96	.67	.73	.75	.79	.79	.69	.66	.74
27-27.9	*.82	....	....	....	....	....	....	.98	.98	.69	.75	.77	.81	.81	.71	.68	.76
28-28.9	*.84	....	....	....	....	....	....	1.00	1.00	.71	.77	.79	.83	.83	.73	.70	.78
Below 29	.84	$.79	0.79	....	....	....	$.84	....	....	....	....	....	....	....	....	....	....
29-29.9	.86	.81	.81	....	....	....	.86	1.02	1.02	.73	.79	.81	.85	.85	.75	.72	.80
30-30.9	.88	.83	.83	....	....	....	.88	1.04	1.04	.75	.81	.83	.87	.87	.77	.74	.82
31-31.9	.90	.85	.85	....	....	....	.90	1.06	1.05	.77	.83	.85	.89	.89	.79	.76	.84
32-32.9	.92	.87	.87	....	....	....	.92	1.08	1.06	.79	.85	.87	.91	.91	.81	.78	.86
33-33.9	.94	.89	.89	....	....	....	.94	1.10	1.07	.81	.87	.89	.93	.93	.83	.80	.88
34-34.9	.96	.91	.91	....	....	....	.96	1.12	1.08	.83	.89	.91	.95	.95	.85	.82	.90
Below 35	....	....	....	$.79	$.69	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	.98	.93	.93	.81	.71	$1.09	.98	1.12	1.09	.85	.91	.93	.97	.97	.87	.84	.93
36-36.9	1.00	.95	.95	.83	.73	1.11	1.00	1.12	1.10	.87	.93	.95	.99	.99	.89	.86	.94
37-37.9	1.02	.97	.97	.85	.75	1.13	1.02	1.13	1.11	.89	.95	.97	1.01	1.01	.91	.88	.96
38-38.9	1.04	.99	.99	.87	.77	1.15	1.04	1.12	1.12	.91	.97	.99	1.03	1.03	.93	.90	.98
39-39.9	1.06	1.01	1.01	.89	.79	1.17	1.06	1.12	1.13	.93	.99	1.01	1.05	1.05	.95	.92	1.00
40 and over	1.08	1.03	1.03	.91	.81	1.19	1.08	1.12	1.14	.95	1.01	1.03	1.07	1.07	.97	.94	1.02

*The following companies purchasing crude oil in Kansas or Oklahoma, or both, begin their price schedules: Below 25 degrees, 76 cents; 25-25.9 degrees, 78 cents, with 2 cents added for each degree upward to 40 and over at $1.08: Carter Oil Co., Magnolia Petroleum Co., Pure Oil Co., Rock Island Refining Co., Shell Petroleum Corp., Sinclair Prairie Oil Marketing Co., Skelly Oil Co. and Wilcox Oil & Gas Co. All others begin their schedule at below 29 degrees, 84 cents, excepting Philtex Oil Co., which begins with below 31 degrees at 88 cents.

Column 1—Effective September 29, The Texas Co. in Oklahoma; Stanolind Crude Oil Purchasing Co. in Kansas and Oklahoma; Anderson & Prichard, Inc., in Oklahoma; Bell Oil & Gas Co. in Oklahoma; Carter Oil Co. in Oklahoma and Kansas; Deep Rock Oil Co. in Oklahoma; Derby Oil Co. in Kansas; Globe Refining Co. in Oklahoma; Golden Rule Refining Co. in Kansas; Gypsy Oil Co. in Oklahoma and Kansas; Kanotex Refining Co. in Oklahoma; Magnolia Petroleum Co. in Oklahoma; Mid-Continent Petroleum Corp. in Oklahoma; National Refining Co. in Kansas and Oklahoma; Shell Petroleum Corp in Kansas and Oklahoma; Sinclair Prairie Oil Marketing Co. in Kansas and Oklahoma; The Texas Co. in Oklahoma; Tide Water Oil Co. in Oklahoma; Vickers Refining Co. in Kansas; Continental Oil Co. in Kansas and Oklahoma; Empire Pipe Line Co. in Oklahoma and Kansas; Philtex Oil Co. in Kansas and Oklahoma; Pure Oil Co. in Oklahoma; Skelly Oil Co. in Kansas. Effective September 29, by White Eagle Oil Corp. in Kansas; on October 1 by Barnsdall Refineries, Inc., in Oklahoma.

Column 2—Effective September 29, by the Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Bell Oil & Gas Co., Continental Oil Co. Effective September 29 in the Van Pool, Van Zandt County, the Pure Oil Co. posted below 29 degrees, 84 cents, with 2 cents added for each degree up to 40 and over at $1.08.

Column 3—Effective September 29 by the Texas Co., Magnolia Petroleum Co., Gulf Refining Co. Effective September 29, Stanolind Oil & Gas Co. in Pine Island, Louisiana, and Marion County, Texas, posted below 25 degrees, 63 cents, with 2 cents added for each degree up to 40 and over at 95 cents. For Standard Oil Co. of Louisiana's prices see Columns 10 to 16, inclusive.

Column 4—Effective September 29 by the Texas Co., Humble Oil & Refining Co., Magnolia Petroleum Co., Sinclair Prairie Oil Marketing Co. and H. F. Wilcox Oil & Gas Co. On same day Philtex Oil Co. posted below 31 degrees, 71 cents, with 2 cents added for each degree up to 40 and over at 91 cents.

Column 5—Effective September 29 by the Texas Co., Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Wilcox Oil & Gas Co., Continental Oil Co. On same day, Philtex Oil Co. posted below 31 degrees, 61 cents, with 2 cents added for each degree upward to 40 and over at 81 cents.

Column 6—Effective September 29 by the Humble Oil & Refining Co. and Tide Water Oil Co., and on September 30 by the Texas Co. which on September 29 had posted a schedule of $1.07 to $1.12, with a 1-cent spread on each degree.

Column 7—Effective September 29 by the Stanolind Oil & Gas Co.

Column 8—Effective September 29 by the Humble Oil & Refining Co., Gulf Pipe Line Co., Shell Petroleum Corp., Pure Oil Co., Sinclair Prairie Oil Marketing Co. On October 2, Magnolia Petroleum Co. posted Lockport, Louisiana: 20-20.9 degrees, 84 cents, with 2 cents added for each degree upward to 34 and over at $1.12, and in Cameron Meadows and Iowa, Louisiana: Below 20 degrees, 72 cents with 2 cents added for each degree up to 34 and over at $1.02. These prices were 2 cents higher on each degree than Magnolia prices posted on September 29. Effective September 29, Shell Petroleum Corp. posted in Iowa, Louisiana, district: Below 20 degrees, 70 cents, with 2 cents added for each degree upward to 34 degrees and over at $1.00; and in Black Bayou and White Castle, Louisiana: Below 20 degrees, 80 cents, with 2 cents added for each degree upward to 34 degrees and over at $1.10.

Column 9—Effective September 30, the Texas Co. (On September 29, the Texas Co. had posted a schedule 2 cents lower on each degree, but changed it on September 30.)

Columns 10, 11, 12, 13, 14, 15, 16—Effective September 29, by the Standard Oil Co. of Louisiana and Louisiana Oil Refining Co.

Column 17—Effective September 29, by the Louisiana Oil Refining Co.

(California Crude Oil Prices on Page 33)

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas	$1.00
Stratman, Kans. (Sept. 29, 1933)	1.08
Corsicana (heavy) (June 17, 1933)*	.30
Other fields	(See gravity table)

Note—In East Texas, effective September 29, 1933, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Shell Petroleum Corp., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Sun Oil Co., Panola Pipe Line Co., and Empire Oil & Refining Co.
*Magnolia Petroleum Co.

West Texas

Crane, Upton, Crockett, Howard, Glasscock, Mitchell (Sept. 29, 1933)	$.75
Ector, Winkler and Pecos Counties and Lea County, New Mexico (Sept. 29, 1933)	.70
Pecos County, Yates shallow pool (Sept. 29, 1933)*	.65
Jones and Fisher Counties	See gravity table.

Note—Effective September 29, 1933, by Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co. in Winkler County, Texas.
*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers	(See gravity table)
Tomball (see note)*	$1.15
Livingston (Sept. 29, 1933)†	1.00
Greta (Sept. 29, 1933)	.85
Refugio, light	(See gravity table)
Refugio, heavy (Sept. 29, 1933)‡	.85
Markham and High Island	(See Gulf Coast gravity table)
Conroe	(See Conroe gravity table)

Note—Tomball, effective September 29, by Humble Oil & Refining Co., and October 2 by Magnolia Petroleum Co., and November 10 by Stanolind Oil & Gas Co.
*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy, by Humble Oil & Refining Co.

South Central and Southwest Texas

(See note below table)

Darst Creek	.87
Mirando	.80
Luling (Sept. 29, 1933)	.75
Pettus	1.05
Salt Flat	.87
Lytton Springs (Sept. 29, 1933)	.95
Duval County (Sept. 29, 1933)	.80
Saxet	.85

Note—Effective on September 29 by Humble Oil & Refining Co. in Darst Creek, Mirando, Pettus, Salt Flat and Saxet. Effective September 29 in Darst Creek by Gulf Pipe Line Co. and Texas Co. Effective October 2 by Magnolia Petroleum Co. Effective in Pettus and Salt Flat on September 29 by Humble Oil & Refining Co. and Gulf Pipe Line Co. Luling and Lytton Springs by Magnolia Petroleum Co. Duval County by Texas Co. Saxet, effective September 29, by Humble Oil & Refining Co. and Texas Co. Effective September 29 in Salt Flat by Shell Petroleum Corp.

(Continued on Page 33)

XUM

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

November 28, 1933

Taxes

The gasoline quotations given in the following tables include the 1½-cent Federal tax effective June 17, 1933, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third or competitive grade is available at 1 or more cents per gallon under the service station price for the regular grade. Ethyl Gasolines are sold 2 cents above the service station price for the regular grade.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atlanta, Ga.	21.5	21.5	7.5	14.0
Augusta	21.5	21.5	7.5	14.0
Macon	22.0	22.0	7.5	14.0
Savannah	22.0	22.0	7.5	14.0
Birm'ham, Ala.	24.0	24.0	8.5	13.5
Mobile	23.0	23.0	8.5	12.5
Montgomery	25.0	25.0	9.5	14.5
Jackson, Miss.	22.0	22.0	7.5	13.0
Vicksburg	21.5	21.5	7.5	13.0
Jack'ville, Fla.	22.0	22.0	8.5	12.5
Miami	22.0	22.0	8.5	13.5
Pensacola	20.0	20.0	8.5	13.5
Tampa	22.0	22.0	8.5	12.5
Lexington, Ky.	20.5	20.5	6.5	11.0
Covington	20.0	20.0	6.5	11.0
Louisville	20.0	20.0	6.5	11.0
Paducah	19.5	19.5	6.5	11.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia and Mississippi include 1-cent state tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Mobile and Birmingham state taxes on gasoline add 1-cent city tax.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Dallas, Tex.	16.5	19.5	5.5	8.5
Fort Worth	16.5	19.5	5.5	8.5
Houston	15.5	18.5	5.5	8.5
San Antonio	16.5	19.5	5.5	8.5
El Paso	17.0	20.0	5.5	8.5
Texarkana	*19.5	19.5	5.5	8.5
Muskogee	16.0	18.5	5.5	8.5
Okla. City	16.0	18.5	5.5	8.5
Tulsa	16.0	18.5	5.5	8.5
Ft. Smith, Ark.	*17.9	17.9	5.5	9.0
Little Rock	*20.4	20.4	7.5	9.0

*Less 3 cents to dealers.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Chicago	17.8	17.8	4.5	9.7
Decatur, Ill.	18.2	18.2	4.5	10.2
E. St. Louis	17.5	16.7	4.5	9.5
Joliet	18.2	18.2	4.5	10.2
Peoria	18.2	18.2	4.5	10.2
Quincy	18.0	18.0	4.5	10.0
Davenport, Ia.	18.1	18.1	4.5	10.1
Des Moines	18.1	18.1	4.5	8.0
Mason City	18.1	18.1	4.5	10.1
Sioux City	17.7	17.7	4.5	9.7
Duluth, Minn.	18.7	18.7	4.5	10.4
Mankato	18.3	18.3	4.5	10.3
Minneapolis	18.4	18.4	4.5	10.4
LaCrosse, Wis.	19.8	19.8	5.3	10.8
Green Bay	19.2	19.2	5.5	10.2
Milwaukee	18.7	18.7	5.5	9.7
Madison	18.9	18.9	5.5	9.9
Detroit, Mich.	18.0	18.0	4.5	10.5
Grand Rapids	18.2	18.2	4.5	10.2
Saginaw	18.5	18.5	4.5	10.5
Evansville, Ind.	16.0	16.0	5.5	10.0
Indianapolis	19.2	19.2	5.5	10.2
South Bend	19.5	19.5	5.5	10.5
Fargo N. Dak.	20.1	20.1	4.5	12.1
Huron, S. Dak.	20.4	20.4	5.5	11.4
Sioux Falls	19.9	18.9	5.5	10.9
K. C., Mo.*	17.2	17.2	4.5	8.2
Springfield*	17.1	17.1	4.5	9.1
St. Louis	16.2	16.2	4.0	8.7
St. Joseph*	16.8	16.8	4.5	8.3
Wichita, Kans.	16.1	16.1	4.5	8.1
Bartlesville, Ok.	16.5	19.0	5.5	8.5

*State tax 2 cents, 1-cent city tax and 1½-cent Federal tax.

Effective June 1, 1933—Discounts off tank wagon price to consumers on 500 gallons or more per month in territory outside of Chicago metropolitan area: 2 cents on Ethyl and Red Crown gasolines, and 1 cent on Stanolind gasoline. One-half cent additional discount in Chicago division.

Effective July 1, 1933—Discounts on resellers authorized agent's agreement made off the service station price throughout the territory as follows: 2.5 cents on Red Crown Ethyl and Standard Red Crown gasolines, and 1.5 cents on Stanolind gasoline. Half of reduction from normal service station price shall be absorbed by resellers up to maximum of 1 cent on all grades.

Stanolex Furnace Oil in Chicago

Effective September 13, 1933, prices f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt. stw. zero), under 100 gallons, 8¼ cents; No. 2 (30-34 stw. zero), 7¾ cents; No. 3 (22-26 zero), 7¼ cents; No. 4 under 300 gallons (12-16 zero), 6¼ cents; viscosity of No. 4, 90-115 at 100° F.; No. 5 under 300 gallons, 6 cents; for deliveries of 100 gallons or more deduct 1 cent.

Naphtha

	Tank wagon
Oleum spirits	13.9
V.M.&P. naphtha	15.9
Cleaners' naphtha	15.0
Stanisol	15.0

Prices f.o.b. Chicago, September 13, 1933. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atl'tic City, N.J.	19.2	18.7	4.5	10.0
Newark	18.5	18.0	4.5	9.5
Annapolis, Md.	19.8	19.3	5.5	10.0
Baltimore	19.3	18.8	5.5	9.0
Cumberland	20.8	20.3	5.5	12.7
Wash'g'n, D. C.	17.5	15.0	3.5	11.0
Danville, Va.	21.9	21.4	6.5	12.9
Norfolk	20.4	18.8	6.5	11.2
Petersburg	21.2	20.7	6.5	11.4
Richmond	20.8	20.3	6.5	11.7
Roanoke	22.0	21.5	6.5	12.9
Charls'n, W.Va.	20.2	19.7	5.5	12.6
Parkersburg	19.5	19.0	5.5	11.2
Wheeling	20.2	19.0	5.5	12.2
Charlotte, N. C.	23.6	23.1	7.5	13.5
Hickory	23.9	23.4	7.5	13.7
Mt. Airy	23.9	23.4	7.5	13.8
Raleigh	23.4	23.9	7.5	13.3
Salisbury	23.7	21.5	7.5	13.0
Charleston, S.C.	21.4	20.9	7.5	11.3
Columbia	23.2	22.7	7.5	13.2
Spartanburg	23.6	23.1	7.5	13.5

Note—Dealer contracts for gasoline are written at 2½ cents over the posted tank car price. Kerosene 1 cent off tank wagon for 25 gallons or more under contract except New Jersey and Baltimore, Md.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
N. Orleans, La.	20.8	17.0	*7.5	†12.0
Baton Rouge	20.0	19.5	6.5	†12.0
Alexandria	20.9	20.4	*7.5	†12.0
Lafayette	21.1	20.6	*7.5	†12.0
Lake Charles	21.0	20.5	*7.5	†12.0
Shreveport	18.8	18.3	6.5	†12.0
Knoxville, Tenn.	24.2	23.2	8.5	13.5
Memphis	22.6	21.5	8.5	11.0
Chattanooga	24.0	23.9	8.5	12.0
Nashville	23.5	21.5	8.5	11.0
Bristol	24.1	23.5	8.5	14.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax.

Commercial consumers for tank wagon delivery pay following amounts over tank car price, basis yearly deliveries:

1,000 to 75,000 gallons	2.5
75,000 to 300,000 gallons	1.5
Over 300,000 gallons	1.0

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline			Kero.
	Tank truck†	Posted retail	Incl'ds tax	tank wagon
San Francisco	15.0	18.0	4.5	12.5
Los Angeles	10.5	13.5	4.5	12.5
Fresno, Calif.	13.5	16.5	4.5	14.0
Phoenix, Ariz.	18.5	21.5	6.5	‡16.0
Reno, Nev.	18.5	21.5	5.5	15.5
Portland, Ore.	19.0	22.0	5.5	13.5
Seattle, Wash.	19.0	22.0	6.5	13.5
Tacoma	19.0	22.0	6.5	13.5
Spokane	21.5	24.5	6.5	18.0

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent. ‡Includes 5-cent state tax.

New York and Part of New England District

STANDARD OIL CO. OF NEW YORK

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Ibany, N. Y.	17.1	18.1	4.5	9.5
New York	17.0	18.0	4.5	8.5
Buffalo	17.7	18.7	4.5	9.5
Rochester	17.5	18.5	4.5	9.5
Syracuse	17.6	18.6	4.5	9.0
Boston, Mass.	17.0	18.0	4.5	8.0
Augusta, Me.	18.5	19.5	5.5	9.0
Manch't'r, N.H.	19.2	20.2	5.5	8.5
Burlington, Vt.	19.8	20.8	5.5	9.0

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Philadelphia, Pa.	14.5	15.0	4.5	10.0
Pittsburgh	17.0	18.0	4.5	10.0
Allentown	17.0	18.0	4.5	10.0
Erie	17.0	18.0	4.5	10.0
Scranton	17.0	18.0	4.5	10.0
Altoona	17.0	18.0	4.5	10.0
Dover, Del.	17.0	18.0	4.5	10.0
Wilmington	16.5	16.5	4.5	10.0
Boston, Mass.	17.0	18.0	4.5	8.5
Springfield	17.6	18.6	4.5	8.5
Worcester	17.5	18.5	4.5	8.5
Hartford, Conn.	16.4	17.4	3.5	8.5
New Haven	16.2	17.2	3.5	8.5
Providence, R.I.	16.0	17.0	3.5	8.5

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Denver, Colo.	19.0	21.5	5.5	12.5
Pueblo	19.0	21.5	5.5	13.0
Grand Jctn.	21.0	23.5	5.5	15.0
Casper, Wyo.	19.5	22.0	5.5	11.0
Cheyenne	18.0	20.5	5.5	13.0
Butte, Mont.	21.0	23.5	5.5	17.5
Billings	23.0	25.5	6.5	16.5
Helena	23.0	25.5	6.5	17.5
Great Falls	22.5	25.0	6.5	17.5
Salt Lake, Utah	22.0	24.5	5.5	16.0
Boise, Idaho	23.0	25.5	6.5	18.0
Twin Falls	23.0	25.5	6.5	18.0
Albu'que, N. M.	19.5	22.5	*7.5	13.0

*One-cent city tax.

Effective June 1, 1933, dealers and lease and license accounts will receive 2½ cents discount on regular gasoline in Montana, Colorado, Wyoming, Utah and Idaho.

STANDARD OIL CO. OF OHIO

Ohio

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Ohio points	17.0	18.0	5.5	*12.5

*Includes state tax of 1 cent, effective July 22.

Canada*

IMPERIAL OIL, LTD.

Imperial 3-Star Gasoline

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Hamilton, Ont.†	26.5	27.5	6.0	17.5
Toronto, Ont.†	26.5	27.5	6.0	17.5
Brandon, Man.*	31.0	34.5	7.0	22.5
Winnipeg, Man.	28.0	31.5	7.0	19.5
Regina, Sask.	31.0	35.0	6.0	23.5
Saskatoon, Sask.	33.0	37.0	6.0	25.5
Edmonton, Alta.	31.5	35.5	6.0	24.5
Calgary, Alta.	28.0	32.0	6.0	21.0
Vanc'ver, B. C.†	30.0	31.0	7.0	24.0
Montreal, Que.	24.0	27.0	6.0	17.0
St. Johns, N.B.	26.5	30.5	7.0	21.0
Halifax, N. S.	25.5	29.5	6.0	21.0

*Imperial gallon used in Canada. †Dealer discount posted tank wagon on gasoline in Ontario and British Columbia subject to dealer's discount of 3 cents per gallon.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Omaha	18.8	19.8	5.5	10.8
McCook	19.0	19.0	5.5	9.0
Norfolk	19.3	20.3	6.5	11.3
N. Platte	20.3	21.3	5.5	10.5
Scottsbluff	19.8	19.8	5.5	11.0

Note: Discount to dealers and AAA commissions. From service station price: Red Crown Ethyl and Standard Red Crown gasoline, 3 cents. Reliance (third grade) gasoline, 2 cents. Rentals under lease and agents agreement, one-half cent per gallon additional.

Discount to consumers under contract (large consumers under contracts and governmental units): On tank wagon deliveries of gasoline on monthly purchases of 500 gallons, or yearly purchases of 6,000 gallons, from the service station price: Red Crown Ethyl and Standard Red Crown Gasoline, 2 cents per gallon; Reliance (third brand) gasoline, 1 cent per gallon.

Retail Price Changes

Regular-Grade Gasoline and Kerosene

Standard Oil Co. of New Jersey November 17 reduced the service station price of gasoline in Salisbury 1.2 cents. November 20 it reduced the price an additional half cent. November 21 it advanced the service station price of gasoline in Charlotte 1.1 cents.

Standard Oil Co. of Louisiana November 9 reduced the service station price of gasoline in New Orleans 1 cent. October 7 it advanced the tank wagon price in Chattanooga .1 cent.

Standard Oil Co. (Indiana) November 11 reduced the service station price of gasoline 1½ cents in Evansville, and November 17 made a similar reduction in the tank wagon price. September 13 it advanced the tank wagon price of kerosene .7 cent in Kansas City, Mo., and .9 cent in Springfield, Mo.

Restrained from Loading Into "Reseller" Trucks

Additional interpretations of the oil code have been approved by Secretary Ickes, one of which deals with the delivery of products at refineries to "reseller." The interpretations follow:

Article 5, Rule 21

"It is the intention of Paragraph 1 of this rule that a reseller shall not accept delivery of naphtha, gasoline or other motor fuel, kerosene, range oil, heating oil or lubricating oil at the refinery, terminal or bulk plant of a refiner, distributor, jobber or wholesaler, into a horse-drawn or motor driven wagon, truck or truck tank, owned or operated by or for such reseller.

"In Paragraph 2 of the rule it provides that 'bona fide' jobbers (which includes distributors, jobbers and wholesalers) are permitted to obtain from refineries, terminals or bulk plants, in their own vehicles or vehicles owned or operated by others, the petroleum products described.

"The rule provides that an agent (of a seller, distributor, jobber or wholesaler) selling such commodities (naphtha, gasoline, or other motor fuel, kerosene, range oil, heating oil or lubricating oil) on a commission basis is not classed as a reseller. Every refiner, distributor, jobber or wholesaler employing agents on a commission basis is responsible for sales made by such agents at the posted prices as provided in the third paragraph of Rule 3, Article 5, and for the observation and compliance with the code in all other respects by such agent.

"The rule permits an exchange of similar products at any refinery, terminal or bulk plant."

Article 5, Rule 5

"The employment of notes, trade acceptances, post dated checks and/or time drafts covering indebtedness incurred on or after September 2, 1933, shall not constitute payment of such indebtedness, and shall not permit the continuation of credit accommodation, except as specifically provided in Appendix 'B.'

"Warrants, scrip, certificates and/or other written acknowledgments of indebtedness, issued by states, counties ,municipalities and/or political subdivisions or departments thereof, may, in the discretion of the seller, be accepted in satisfaction of accounts and such acceptance shall not constitute an unfair method of competition, if such warrants, scrip, certificates, and/or other written acknowledgments of indebtedness are sold, redeemed, or applied to taxes at their face value."

NATURAL GASOLINE MANUFACTURE

Natural Gasoline Price Advance Not Out of Line

Although natural gasoline prices have shown a remarkable advance since the middle of June, their present level is not unreasonably high when the advances of other important markets are recorded.

In accompanying graph, the low of the price range for the 26-70 grade of natural may be compared with the low octane refinery gasoline price, 36 gravity Mid-Continent crude and the average price for regular grade gasoline at filling stations throughout the United States.

It should also be remembered that the industry is committed to a schedule of prices higher than at present in its price fixing plan. Although price fixing may never be adopted in the form promulgated by Secretary Ickes on October 16, in which the middle grade refinery gasoline was to be established at 6½ cents a gallon, 36 gravity crude $1.11 a barrel etc., the fact remains that the administration has been told these prices will be needed in order to show a reasonable profit. That is the objective of the NRA program. If the industry can not bring its markets to the necessary level, then price fixing by the Federal Government will be tried.

At the present time, the pendulum is moving away from Federal price fixing. No one in the industry wants Federal price fixing if profitable prices can be arrived at in another manner. At present the course of planning favors curtailing crude production, controlling refinery gasoline and stocks and natural gasoline production will be automatically curtailed when crude production is reduced. At the present time, the general gasoline market in the Mid-Continent is weak because of jobbers drawing upon storage to avoid paying the one-half cent Federal tax on replacements. After the Federal tax of one-half cent is removed (probably January 1, 1934) jobbers will be without gasoline and will be forced to buy. This program of not buying now may prove a costly one to them in the end, especially so if the natural gasoline manufacturers curtail their production to avoid burdensome stocks in the meantime.

Marketers of Liquefied Petroleum Gases Unify Sales Practices Under Code

Following closely the provisions of the oil industry's code for the hours of workers and scale of pay, the liquefied gas industry has completed its separate code with special attention paid to the marketing division. The code will be administered by an emergency national committee composed of 11 representatives, of which G. G. Oberfell, president of Philfuels Co., is chairman. The rules for marketing liquefied gas under the code follow, and will be in effect until June 16, 1935. Copies of the complete code may be secured from the Superintendent of Documents, Washington, D. C., for 5 cents each.

Rule 1. No "marketer" engaged in the sale of liquefied gas products shall wilfully induce, attempt to induce, or assist a party to break a then existing written contract for the sale of liquefied gas products or a then existing lease of the equipment used for the sale or utilization of liquefied gas products between that party and another.

No "marketer" engaged in the sale of liquefied gas products shall knowingly enter into any agreement to sell or deliver any liquefied gas to anyone where sale or delivery will violate or prevent the performance of a then existing written contract between the person to whom the sale or delivery is made and another.

Nothing herein shall be construed to restrict another marketer from explaining the convenience and general features and operation of such marketer's utilization equipment to the customer of another marketer.

No contracts in violation of this code are protected under this rule.

Rule 2. When any equipment, tank, cylinder, or other device for the storage, consumption, handling or sale of liquefied gas leased prior or after the adoption of this code bears the name, mark, trade mark, or trade name of any "marketer" engaged in the manufacture or sale of any such commodity, no other "marketer," unless that "marketer" has been regularly serving such equipment immediately prior to the adoption of this code, or unless such equipment is owned by Federal, state, or municipal governments or subdivisions thereof and no liquefied gas contract is in effect, shall deliver into or deliver for sale to such equipment, tank, cylinder, or other device or any tank or container connected therewith, any liquefied gas, other than that manufactured, sold, and distributed by the "marketer" whose name, mark, trade mark, or trade name is so affixed, and no "marketer" shall in any way knowingly be a party to the substitution of the one brand or type of liquefied gas for another, or the removal or transportation of any equipment, tanks, cylinders, devices, of the like belonging to another "marketer."

No "marketer" shall make any changes in, additions to, or substitutions from, any equipment installed on lease by any other "marketer," except where such "marketer" has been regularly supplying liquefied gas for use in such equipment immediately prior to the adoption of this code, or upon written permission of the owner thereof or the original "marketer" installing same. Marks, trade marks, or trade names of any "marketer" engaged in the manufacturing sale of any such commodity shall not be removed by any other "marketer" except on written authorization by such "marketer" and/or owner.

Rule 3. As the bottled gas branch of the liquefied gas industry is a growing industry, and as it is still in its development period of creating new markets, marketing of appliances to consumers directly by the "marketer" is essential, and all "marketers" may sell appliances direct. Incentives such as load building appliances, utensils, advertising novelties, etc., shall be construed as assisting in building the industry and shall be allowed, but only to consumers already using liquefied gas as compensation for

(Continued on Page 44)

Shamrock Oil and Gas to Enlarge Panhandle Plant

The Shamrock Oil & Gas Co. is planning to revamp its natural gasoline plant in Section 50, Block 25, H.&G.N. Survey, on the Clayton lease near Lefors, Tex., to convert it from a low pressure plant to a high pressure plant and its capacity will be increased approximately five times.

At present the absorbers and fractionating equipment is capable of processing approximately 15,000,000 feet of local gas daily. After new absorbers and fractionating towers are added, along with such auxiliary equipment as needed, the plant's capacity will be increased to 75,000,000 feet daily.

A 16-inch and an 18-inch gas line are being run from the plant to the Wheeler County line and may be extended later. The distance is about 12 miles.

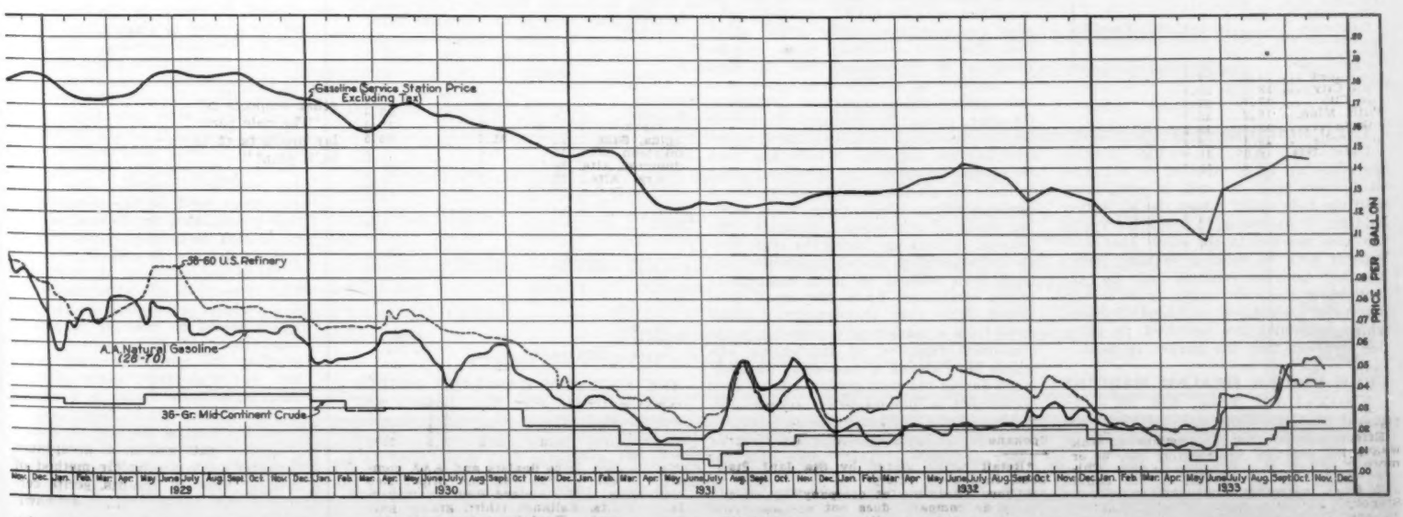
This company is also starting new drilling operations in Moore County with the spudding in of its No. 1 Robertson, located 990 feet from the south line and 1,650 feet from the west line of Section 400, Block 44, H.&T.C. Survey.

ENLARGE EAST TEXAS PLANT

The plant of the Excelsior Refining Co., Inc., located in the London area, Rusk County, will soon be expanded to twice its present capacity. It is processing approximately 3,000,000 feet of gas per day at present and has made contracts whereby it will be assured of a much larger supply of natural gas from the wells in that area. Its capacity when enlarged will approximate 12,000,000 feet daily. H. L. Hune, interested in this project, has many producing leases near this plant and will supply a large part of the gas for the plant. Forty miles of additional gas gathering lines will be laid to connect with more leases and wells to insure a greater supply of gas. These lines will be of various sizes. Earl Clover is superintendent of the plant. The gasoline is shipped from loading racks at Friars Switch.

Similar increases in plant capacity are projected in other plants but construction is being held up pending a more definite program for crude productions under the code.

Trend of Prices in the Various Mid-Continent Markets



The natural gasoline price is based upon the 26-70 grade, the refinery gasoline price reflects the market for the low octane grade and the crude price is that posted for 36 gravity oil. The service station price is the average on the regular grade in 50 cities in the United States after taxes are deducted

NEWS FOR SALES DEPARTMENTS

Chicago Post Office Asks Bids to Supply Gasoline

CHICAGO, Nov. 27.—The motor vehicle division of the Chicago postoffice is asking for bids for furnishing 250,000 gallons of U. S. Motor gasoline, 60-64 octane rating, for its use in the first quarter of 1934. Bids will be taken until 10 a.m., December 4.

The gasoline must conform to current government master specifications for gasoline VV-G-101. Bids may be furnished along two lines, differential or bidder's bulk plant quotation. Gasoline under the former must be shipped from Group 3, Oklahoma, or places having the same commercial freight rate under government bill of lading, stored in suitable tanks and delivered to government-owned tank trucks of the postoffice as required. Gasoline under the latter must be delivered to government-owned tank trucks of the postoffice as required at bidder's bulk plant.

California's Gasoline Tax Shows Decline from 1932

SACRAMENTO, Calif., Nov. 27.—The gasoline tax for October brought $3,182,008 into the state treasury, according to R. E. Collins, chairman of the state board of equalization. This figure shows a loss of 3.5 per cent compared with the gasoline tax for October of 1932. The net taxable gallonage distributed in California during October was 107,138,341.

The board report showed both the taxable gallonage of the oil companies and the total gallonage actually sold by these companies.

"This total gallonage would include the net taxable gallonage," Mr. Collins said, "plus such nontaxable sales as exports, direct sales to the Federal government, resale of gasoline purchased from one company by another, upon which the tax was paid by the first company, and other similar items.

Among companies reporting more than 300,000 gallons were:

Name—	Gallons actually sold	Net taxable gallonage
Standard Oil Co. of California	47,830,082	21,676,651.5
General Pet. Corp. of California	30,168,300	8,130,233
Shell Oil Co.	28,051,951	13,448,013
Associated Oil Co.	17,483,434	10,608,984
Union Oil Co. of Cal.	16,060,267	10,983,263.2
Texas Co. (Calif.)	11,878,565	4,322,115.5
McDuffie, Wm. C., rec. Richfield Oil Co. of California	9,192,982	8,046,776
Seaside Oil Co.	3,373,470	1,289,425
Hancock Oil Co. of California	3,188,917	3,156,500
Rolapp, F. H., rec., Sunset Pacific Oil Co.	3,180,201	929,219

USED BURNERS MAY BE SOLD

CHICAGO, Nov. 27.—The question has come up as to whether or not used oil burners may be sold in compliance with the code under which the oil burner industry is operating. A tentative ruling has been reached to the effect that used burners may be sold. A definite policy has not been determined but for the time being the code authority is accepting price schedules on used burners, which schedules are required to carry the notation that the burner is used.

URGE BIGGER DEALER MARGINS

KNOXVILLE, Tenn., Nov. 27.—An appeal to petroleum code officials has been made by the Independent Retail Gasoline Dealers Association here to increase margins to retail dealers. Frank Harding, secretary-treasurer, says there are many violations of the code in Knoxville and these are being brought to the attention of the local committee.

LOOKING FOR CODE VIOLATORS

WICHITA, Kans., Nov. 27.—Inspectors from the Kansas City division office are expected to come to this part of Kansas this week to investigate alleged violations of the code for the oil industry, marketing division, according to J. A. Motter, chairman of the marketing code committee in Kansas and executive secretary of the Kansas Oil Men's Association. "Petty violations of the code in Kansas have been reported to Washington," Mr. Motter explains. "There are a few who believe the code is not a law and, because officials are slack in enforcing its provisions, are breaking over the traces."

California Marketers to Form Gasoline Cartel

California marketers, including 75 per cent of the total number in the business, faced with a possible prolongation of the existing gasoline price war, have formed a gasoline cartel for the Pacific Coast. The immediate result will be a price advance at stations. Independent marketers and major companies recognize the advisability of formulating some definite program whereby prices in Pacific Coast territory may be stabilized to the mutual benefit of all concerned. A number of conferences have been held during the past 15 days but marketers have been unable to agree on the fundamental principles of the cartel, which involve the allocation of sales and determination of the normal demand for each marketer. Sponsors of the cartel are quite sanguine over the possibility of success, although they generally admit that there are still a few hurdles to be made before the issue can be brought to a successful conclusion. The projected cartel covering Pacific Coast territory is similar to the European commitment among manufacturers for the regulation of production and prices, although the California cartel contemplates the allocation of gasoline gallonage among marketers. As tentatively set up, the gasoline cartel proposes to permit each marketer to sell a fixed quantity of gasoline monthly based on their normal demand. The agreement, if successfully ratified, will run for a period of 18 months. In addition to allocating sales volume, the California cartel prohibits marketers from building or buying new sales outlets during its effective date. Sales initiative is encouraged by suitable penalties for underselling of quotas and unethical practices are prohibited under severe penalties. The chief stumbling block encountered up to the present time has been the inability of marketers to agree on a fair and equitable allocation of demand. Gasoline prices in Southern California territory continue to reflect the competitive bid for gallonage which has been intensified by the ability of several small refiners to purchase Huntington Beach crude at prices substantially below existing crude oil schedules. Legitimate independent refiners are facing the same situation confronting major companies and have been obliged to meet competitive prices established by a few small marketers. The only encouraging development from a marketing standpoint is the continued firmness of lubricating oils which have shown a consistent improvement during the past several weeks. This betterment in lub oil prices reflects formation of the California Lubricating Oil Marketers Association, organized recently under the code of fair competition for the petroleum industry for the specific purpose of immediately effecting stabilization of lub oil prices, the absolute control of peddlers and promotion of fair competition.

Must Pay Tax on Airplane Fuel Taken from Storage

BATON ROUGE, La., Nov. 27.—An aviation company operating airplanes in interstate commerce importing gasoline into the State for use in its planes is subject to the gasoline tax on such of the gasoline as is withdrawn from storage within the State, the Federal court for the Eastern district of Louisiana held in the case of the American Airways, Inc., vs. Grosjean. The court held the tax to be an excise tax. Further, the court held that the tax is levied as a charge for the use of the highways which the aviation company does not use, but this is not a violation of the fourteenth amendment as the power of the State to levy taxes does not depend upon the enjoyment of the taxpayer of any special benefit from the use of the funds raised by taxation.

Oil Men Notified They May Ignore Two Questionnaires

WASHINGTON, D. C., Nov. 27.—Questionnaires mailed out by the U. S. Department of Labor to all trucking industries and to some units of the oil industry which operate trucks may be disregarded so far as the petroleum industry is concerned, according to later announcement. The questionnaires bear the numbers SR7 and SR7a.

In a letter to general chairmen of regional code committees, J. W. Hart, secretary of the labor subcommittee in Washington, says:

"In as much as the Planning and Coordination Committee will, in the very near future, issue similar questionnaires and knowing that the industries are being questionnaired to death at present, we secured from the Department of Labor permission to notify the petroleum industry to diregard questionnaires SR7 and SR7a mailed to them by the Department of Labor."

OIL PAYS TEXAS $28,000,000

AUSTIN, Tex., Nov. 27.—The Texas comptroller announced that for the first 10 months of this year the State has collected $25,003,776.80 as gasoline taxes; $2,855,107 as gross production oil taxes, and $262,398 as pipe line regulation taxes. Until September the oil production tax was collected quarterly.

The gasoline tax showed a high consistent level, with September the highest month, July second, and October third.

Following are monthly amounts coming from these sources to the State for 10 months of 1933:

1933—	Gasoline	Oil production	Regulating pipe lines
Jan.	$2,300,473	$683,374	$38,278
Feb.	2,249,161	568,674	32,635
Mar.	1,901,825	18,289	880
Apr.	2,291,720	247,331	24,235
May	2,438,296	524,744	55,193
June	2,559,847	11,170	888
July	2,942,722	135,635	19,030
Aug.	2,652,996	537,941	86,783
Sept.	2,903,778	21,062	1,566
Oct.	2,763,046	106,883	2,904
Total	$25,003,776	$2,855,107	$262,398
1932—			
Nov.	2,737,549	.....	.....
Dec.	2,495,108	.....	.....
12 mo. gasoline taxes	$30,236,433		

ASK UNIFORM GASOLINE PRICES

RICHMOND, Va., Nov. 27.—A protest to Gen. Hugh S. Johnson against alleged discrepancies in gasoline prices at cities along the Gulf Coast, particularly Mobile, Ala.; New Orleans, La.; Pensacola, Fla., and Houston, Tex., has been dispatched by the Mobile Automobile Club. The protest asks that uniform prices be established.

COMPANY CHANGES ITS NAME

SAVANNAH, Ga., Nov. 27.—To avoid confusion with another company having the same name the American Oil Co., of Savannah, large independent distributor of oils and gasoline in the Savannah territory, has changed its name to Colonial Oil Co. E. M. Demere, president, said the step was taken because the American Oil Co., having nationwide distribution, is preparing to enter the field in Savannah. The Savannah concern is distributor in the territory for Pure Oil Co. products.

Kansas Oil Men Organizing to Oppose Chain Store Tax

WICHITA, Kans., Nov. 27.—Kansas oil men with the assistance of the Mid-Continent Oil and Gas Association are organizing to fight a chain store tax imposed by the legislature now in session. Oil men say that the industry, particularly the marketing end, is overburdened with municipal, state and Federal taxes and that to impose a chain store tax, under which each service station and bulk station would be subject to a graduated tax, would be an extra hardship. The graduated tax would increase proportionately to the number of units operated in Kansas.

It is proposed that spokesmen for the oil industry be allowed to appear before the legislature and present their side of the case.

50,000,000 FRENCHMEN CAN'T BE WRONG

"By obliging petrol refiners to take over the excess stocks of national alcohol and mix them with motor fuel, an injustice is being done to motorists in general," declares M. Louis Renault, according to the "British Motor Trader." "These petrol-alcohol mixtures are not satisfactory, for they deteriorate valves, tanks and carburetors, and they damage paintwork. Acceleration is less satisfactory, or if equal acceleration is obtained, it is at the cost of a 4 per cent increase in fuel used. Starting is more difficult, and there is a much greater tendency towards vapor lock. One of the most serious troubles experienced in France is the tendency of the alcohol to absorb humidity.

"M. Renault considers that instead of forcing these excess stocks of alcohol on motorists, merely for the benefit of farmers, the government would have been better advised to encourage its use for heating and cooking purposes, particularly in the country, where gas is not readily obtainable. For this particular work it has advantages over petrol. A great demand could be created for toilet purposes if the present taxes were reduced.

"It is suggested by M. Renault that three kinds of fuel be created: (a) a cheap petrol-alcohol mixture which would be used by taxicabs and other vehicles constantly in service; (b) normal straight petrol; (c) high-grade motor spirit. Meanwhile every dealer in France appears to be doing his best to convince his clients that the fuel he sells does not contain alcohol. In this they are not altogether successful, for most of the fuel on sale smells like alcohol and acts like alcohol."

Here's a double-barreled, sure-fire Sales Plan that has proved its worth during the worst year of the depression . . . selling millions of extra gallons of gasolene and opening hundreds of new accounts (it closes 6 out of every 10 prospects).

Not only is this plan new, not only is it effective, not only will it get new customers—but, it *can't help* but build bigger profits.

Our enthusiasm has been justified by concrete results. We believe it the greatest sales plan the industry has ever seen. Sales increases have proved it. It will cost you nothing to get full details. And then you'll be enthusiastic, too, over the profit possibilities. Write, wire, phone today to the nearest Cities Service subsidiary listed below.

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CITIES SERVICE OIL CO. (OHIO) Cleveland, Ohio	CITIES SERVICE REFINING CO. Boston, Mass.	LOUISIANA OIL REFINING CORP. Shreveport, La.
CITIES SERVICE OIL CO. (WIS.) Milwaukee, Wis	CREW LEVICK CO. Philadelphia, Pa.	A. R. NEWCOMBE OIL CO. Kingston, N. Y.

CITIES SERVICE OIL CO. (DELAWARE), Tulsa, Okla.

NRA

CITIES SERVICE OILS AND GASOLENES

NEWS FOR PETROLEUM REFINERS

Consolidated Rehabilitates Plant Damaged by Storm

The Mexican Sinclair Petroleum Corp. and the Pierce Oil Co. S. A., Mexican subsidiaries of the Consolidated Oil Corp., are engaged in construction work at the Pierce refinery in Tampico, Mexico. The work at the refinery, which was damaged in the recent hurricanes, includes distillation equipment, tankage and other refinery equipment.

The refinery came under the control of the Consolidated when the Pierce company was merged. The plant was built by the Pierce company several years ago and has a rated crude oil capacity of 15,000 bbls. The rehabilitation program was designed by the engineering department of the Sinclair Refining Co. which will have charge of construction.

Right to Use Emblem Is to Be Settled by Court Trial

FRANKLIN, Pa., Nov. 27.—A suit intended to establish its exclusive right to control the use of its oval emblem in connection with the marketing of lubricants will begin here this week when the Pennsylvania Grade Crude Oil Association opens its case against the Radbill Oil Co. of Philadelphia before Judge Lee A. McCracken in the common pleas court of Venango County. Many of the largest and best known refiners in the Pennsylvania area are co-complainants with the association.

The case was first brought in October, 1932, when the Radbill company was said to have continued the use of the association emblem after it had resigned its membership in the association. In the meantime, evidence has been gathered to support the contentions of the association that it has been damaged and buyers of oil have been misled. It is understood that the defense will be that the association has no legal right to impose restrictions on the use of the device.

The case has attracted much attention because it is expected to establish a precedent in the matter of branding and labeling motor oils, an issue which has long been in controversy.

BOLIVAR REFINERY TO START

BOLIVAR, N. Y., Nov. 27.—Allegany Refineries, Inc., will begin operation of its 750-bbl. plant here the first week of December, when all of the construction work will have been completed. With the favorable turn in the weather, plans to start processing the "dark oil" of this district immediately and shutting down later for additional installations, were abandoned.

CHASE PLANT SITE SELECTED

LYONS, Kans., Nov. 27.—The Security Petroleum Co. has selected the site for its 3,000-bbl. refinery in the Chase townsite field in Rice County. It will be located on a five-acre tract belonging to D. R. Campbell just south of the Chase city limits. Materials are being shipped in for this plant which is to cost approximately $30,000.

PAN AMERICAN LETS CONTRACT

HOUSTON, Tex., Nov. 27.—Apex Construction Co. of Houston has been given the contract by the Pan American Refining Co. to lay the various pipe lines necessary to connect the latter company's refinery and loading docks now under construction at Texas City. Although the refinery and docks are less than a mile apart, approximately 13½ miles of pipe will be required.

Continental Oil Company Announcing Three Promotions in Technical Staff

PONCA CITY, Okla., Nov. 27.—Three important appointments and changes in the manufacturing personnel of Continental Oil Co. have been announced here by Walter Miller, vice president in charge of manufacturing. They are as follows:

Dr. B. H. Lincoln, assistant to the manufacturing manager, has been made

DR. B. H. LINCOLN

chief chemist. L. S. Cannon, chief research chemist, has been named general control chemist.

J. S. Hume, assistant chief chemist,

J. S. HUME

was appointed resident chemist, all with offices at the Ponca City refinery. All three men have been with Continental for a number of years.

Doctor Lincoln was graduated from the University of Arkansas with a Bachelor of Science degree in 1923, after having majored in chemistry. He spent three and one-half more years at the University of Colorado, where he majored in organic chemistry and secured his doctor's degree.

In the summer of 1925 he organized and equipped a sanitary engineering laboratory for the state of Colorado and operated it for two months. From July, 1926, until July, 1929, he was chief research chemist for the Continental Oil Co. of Maine. In July, 1929, following the merger of the Continental and Marland oil companies to form the Continental Oil Co. of Delaware, he became

L. S. CANNON

assistant to the manufacturing manager of the new organization. Since 1929 Doctor Lincoln has studied law, specializing in patent law, and in August, 1933, was admitted to the United States patent office bar. His promotion follows the recent depth of Alfred Henrickson, former chief chemist.

Mr. Cannon was graduated from the University of Virginia in 1919 with a Bachelor of Science degree. He secured his master's degree from the same institution in 1921, and then stayed for another year of post graduate study, majoring in physical chemistry. For six years while he was in the University of Virginia he acted as student instructor in general and analytical chemistry. After leaving Virginia, he spent a year teaching chemistry in Marion Institute, Marion, Ala. He is a member of Alpha Chi Sigma, honorary chemical fraternity.

In June, 1924, Mr. Cannon went to work for the Marland Oil Co. as chemist in the Ponca City refinery. Later he was made assistant chief chemist, and still later became chief research chemist.

Mr. Hume is a graduate of the University of Oklahoma, where he secured his B.S. degree in chemical engineering in 1925. In July, soon after his graduation, he entered the service of the former Marland Oil Co. as chemist. He was made assistant to the chief chemist in 1929 and assistant chief chemist in 1931. Mr. Hume is also a member of Alpha Chi Sigma, as well as Tau Beta Pi, honorary engineering fraternity.

Organization of Southwest Refiners Receives Charter

FORT WORTH, Tex., Nov. 27.—A charter has been granted to the Southwest Petroleum Association, with headquarters in Fort Worth. The new organization is composed of about 15 refining, marketing and producing concerns in Texas, Louisiana and Arkansas, whose object it is to present views of the membership on their problems to the oil administrator, the Petroleum Administrative Board and the Planning and Coordination Committee in Washington, according to Henry B. May, Fort Worth refiner, who is secretary-treasurer. R. B. Farris, also a Fort Worth refiner, is president.

Most of the members of the new association are members of various other oil organizations, but do not believe the existing associations fully represent their views, Mr. May said.

East Texas Refiners Not Reporting Show Increase

AUSTIN, Tex., Nov. 27.—The number of East Texas refineries not reporting to either state or Federal authorities has increased from 8 to 11, according to Marvin E. Croom's report to the Texas Petroleum Council, of which he is the East Texas manager.

Total runs to stills of all refineries in the district averaged 51,796 bbls. for the week ending November 4, and 40,921 bbls. for the week ending November 12, Mr. Croom stated.

"Without accurate estimates of withdrawals from storage at these refineries," the report said, "we cannot estimate how much hot oil they are taking, but their daily current allowable connections cannot be giving them more than about 15,000 bbls., so that the balance of their runs to stills is a combination of hot plus storage withdrawal oil. Until they are made to render reports to the Federal authorities we cannot check their activities. Taking the Railroad Commission figures for September, which, as reported, are merely their estimates, these refineries averaged 22,900 bbls. per day of absolutely hot oil, not including storage withdrawals. These same refineries, plus additions since, are still just as free to run hot oil as before."

The great danger seen by Mr. Croom is that unless the refineries now running hot oil are not promptly brought under control numerous others will, almost of necessity, join them in their practice. He sees, in addition, a new threat of hot oil, probably amounting to 20,000 bbls. per day, from the "salvage" plants springing up over the field, if the commission's present rule covering their operations is voided by the courts.

HANFORD INCREASES CAPACITY

LOS ANGELES, Calif., Nov. 27.—At its Hanford plant the Caminol Refining Co. is adding new retorts and storage tanks to bring its capacity up to 2,500 gallons of gasoline per day. The plant works on crude from Kettleman North Dome.

PLANS ADDITIONS TO PLANTS

TITUSVILLE, Pa., Nov. 27.—More than $50,000 will be expended by Pennsylvania Refining Co. of Titusville, in making additions to its plant, it is announced. Details of the construction work are not yet available.

KNOWLEDGE PLUS EQUIPMENT EQUALS SERVICE

It takes specialized equipment as well as specialized knowledge to produce refinery tubes that meet modern refinery conditions as Timken tubes meet them.

Take heat treatment for instance. No part of the entire tube manufacturing process is more important. None demands more skill, care or greater accuracy. Uniformity of annealing is as vital as uniformity of quality in the steel itself.

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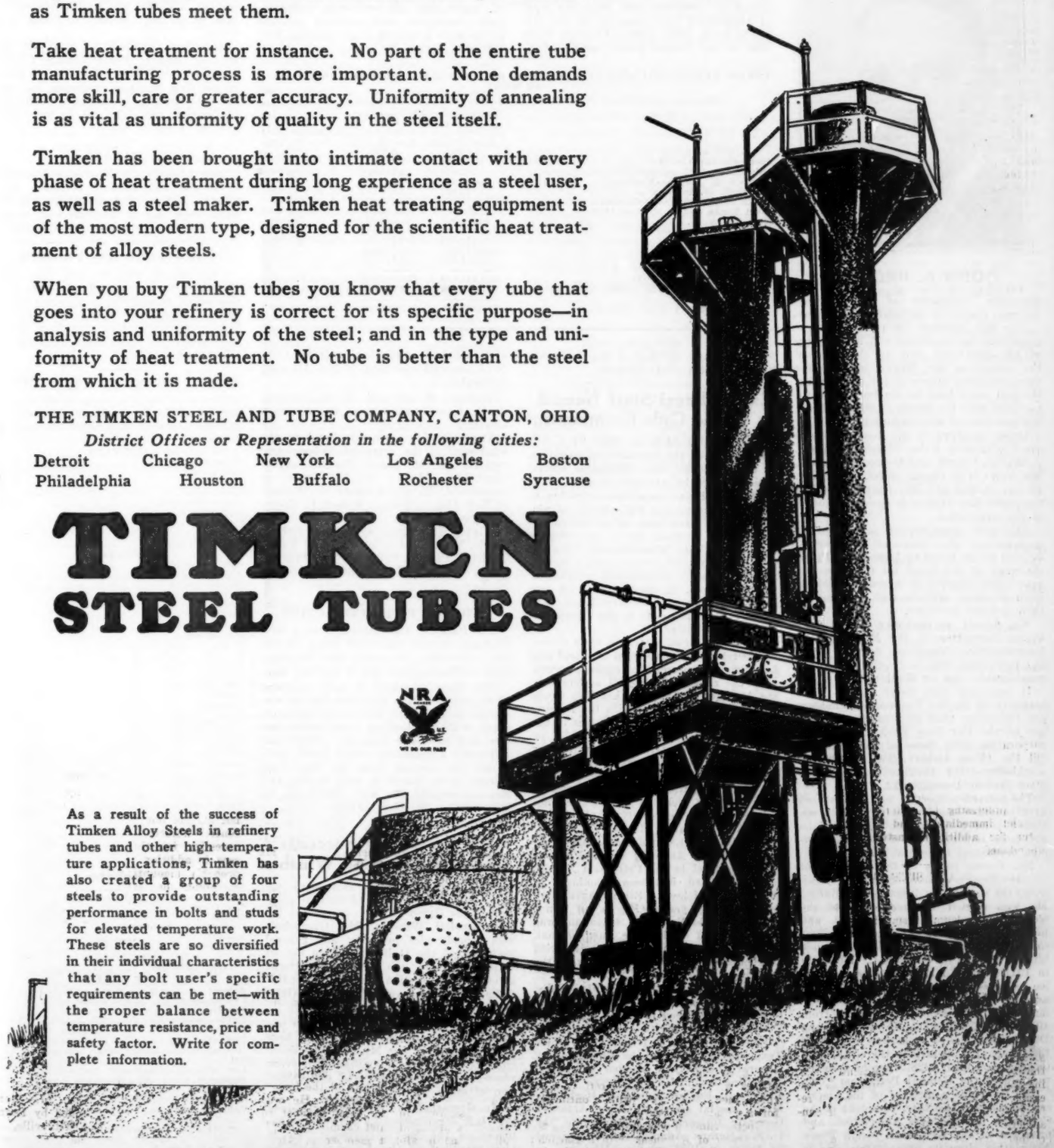

As a result of the success of Timken Alloy Steels in refinery tubes and other high temperature applications, Timken has also created a group of four steels to provide outstanding performance in bolts and studs for elevated temperature work. These steels are so diversified in their individual characteristics that any bolt user's specific requirements can be met—with the proper balance between temperature resistance, price and safety factor. Write for complete information.

WORLD'S LARGEST PRODUCER OF ELECTRIC FURNACE STEEL

Socony-Vacuum Elects J. A. Brown Chairman of Executive Committee

By C. O. WILLSON

NEW YORK, Nov. 27.—In an important change in company management today, John A. Brown, president of the General Petroleum Corp., Los Angeles, was made chairman of the newly created

JOHN A. BROWN

executive committee of the Socony-Vacuum Corp., by the board of directors.

The five members of the board who constitute the committee will have charge of all operations, and as chairman of the committee Mr. Brown becomes the chief executive officer of the corporation. He will move here in the immediate future and have his offices at 26 Broadway, headquarters of the corporation.

Other members of the new committee are Frederick S. Fales, Harold F. Sheets, Arthur F. Corwin and George V. Holton. Mr. Fales is in charge of refineries; Mr. Sheets, marketing; Mr. Corwin, production, and Mr. Holton is general counsel of the corporation.

The new arrangement in regard to management was proposed and recommended to the board by Herbert L. Pratt, chairman of the board for the past five years, and Charles E. Arnott, president. Both of these officers will continue in their present positions.

Mr. Arnott, as chairman of the marketing committee of the Planning and Co-ordination Committee set up under the petroleum code, is required to spend considerable time at Washington.

It was said here today that a large majority of Socony-Vacuum stockholders are indicating that they favor the merger of the Far East properties of that corporation with those of the Standard Oil Co. (New Jersey). The meeting of stockholders for ratification will take place here on December 12.

The merged properties will be operated as a separate company with officers obtained from both companies. It will be the most important development in foreign operations in several years.

Mr. Brown comes to the management of the Socony-Vacuum from the presidency of one of its largest subsidiaries. He was elected vice president of the General Petroleum Corp. in 1928, and president in 1930. He was born in Adams County, Pennsylvania, in 1885 and made his start in the oil business in California in 1911. Early in 1918 he went to Mexico as assistant manager for the Standard Oil Co. of New Jersey and was manager of its operations in Mexico from 1919 until 1926 when he went to the Dutch East Indies to assume charge of the company's operations there. He held that position until 1928, when he resigned to go with the General Petroleum Corp.

Mr. Brown is a director of the American Petroleum Institute, president of the California Oil and Gas Association, and president of the Kettleman North Dome Association since its organization. He is also chairman of the California Regional Production Committee under the petroleum code and director of the California State Chamber of Commerce.

Administrator's Report on Crude Stocks

Stocks of domestic and foreign crude oil at the close of the week ended November 18 amounted to 342,647,000 bbls., a decrease of 748,000 bbls. from the total of 343,395,000 bbls. reported for the preceding week, Harold L. Ickes, Secretary of the Interior and administrator of the code of fair competition for the petroleum industry, announced today. This decrease represents a daily average of approximately 107,000 bbls. Stocks of domestic crude oil totaled 339,847,000 bbls., a decrease of 1,097,000 bbls. from the total of 340,944,000 bbls. reported for the preceding week, while stocks of foreign crude held in the United States amounted to 2,800,000 bbls., an increase of 349,000 bbls. over the total of 2,451,000 bbls. reported for the preceding week. Current import statistics recorded an increase of 102,000 bbls. in receipts of foreign crude oil during the past week, as compared with the preceding week.

Current reports of the oil industry indicate that petroleum refineries during the week ended November 18 refined a daily average of 2,345,000 bbls., an increase of 110,000 bbls. over the daily average recorded for the preceding week. Stocks of motor fuel at petroleum refineries, bulk terminals, and natural gasoline plants were decreased approximately 140,000 bbls. during the week.

CRUDE PETROLEUM STOCKS REPORTED BY COMPANIES HOLDING 100,000 BBLS. OR MORE

(Received and tabulated by the U. S. Bureau of Mines, Washington, D. C.

Grade of crude oil—	Stocks held by reporting companies: Nov. 11, 1933 (bbls.)	Nov. 18, 1933 (bbls.)	Change from Nov. 11, 1933 (bbls.)
Pennsylvania Grade	5,352,900	5,383,000	+ 31,000
Other Appalachian, including Kentucky	1,102,000	1,115,000	+ 13,000
Lima-N. E. Indiana-Michigan	1,520,000	1,462,000	— 58,000
Illinois-S. W. Indiana	11,032,000	11,067,000	+ 35,900
North Louisiana and Arkansas	11,916,000	11,787,000	— 129,000
West Texas and S. E. New Mexico	32,591,000	32,562,000	— 29,000
East Texas	46,124,000	45,538,000	— 586,000
Other Mid-Continent	151,619,000	151,928,000	+ 309,000
Gulf Coast	16,624,000	16,183,000	— 441,000
Rocky Mountain	27,146,000	27,121,000	— 25,900
California	35,918,000	35,701,000	— 217,000
Total domestic crude	340,944,000	339,847,000	—1,097,000
Foreign crude	2,451,000	2,800,000	+ 349,000
Total crude	343,395,000	342,647,000	— 748,000

Expert Legal Staff Named to Aid Code Enforcement

(Continued from Page 9)

Department of the Interior and secretary of the board, all were designated special assistants to the Attorney General.

"We shall give immediate attention to numerous complaints and reports of violations that have been submitted to the board from various areas, particularly from Texas," Mr. Margold said. "We are preparing to take prompt action in the courts whenever the evidence justifies it. Our endeavors, in accordance with our instructions from Secretary Ickes, will be to enforce the code to the fullest extent of our ability."

Highly qualified attorneys were chosen by Secretary Ickes to form the field and headquarters enforcement agency, several with the ranking of special assistant to the Attorney General, so that they would be able, in co-operation with the Department of Justice, to prosecute cases in the United States courts.

A. W. Walker, Jr., professor of law at the University of Texas at Austin and chairman of the Texas Petroleum Council, an organization formed to assist in oil regulation work in Texas, was appointed to the legal staff of the Petroleum Administrative Board.

Douglas Arant, appointed a special assistant to the Attorney General and a special counsel to the Petroleum Administrative Board, has been prominent in the practice of law in Birmingham, Ala., for about 10 years. He is an honor graduate of the Yale Law School and was editor in chief of the Yale Law Journal.

Others chosen for work directly with the board or as special assistants to the Attorney General are:

Charles Francis, of Wichita Falls, Tex., special assistant to the Attorney General; considered in Texas one of the leading legal authorities on oil matters.

LaVergne Francis Guinn, of Dallas, Tex., special assistant to the Attorney General; formerly a member of the oil marketing committee for Texas.

Allen J. Furlow, native of Rochester, Minn., special assistant to the Attorney General; formerly an attorney for the U. S. Veterans' Administration, assigned to Texas in 1931, and to Michigan in 1932.

Frank J. Higgins, for many years one of the leaders of the bar in Jersey City, N. J., special assistant to the Attorney General.

William H. Hoover, of Washington, D. C., special assistant to the Attorney General.

The following were appointed to the legal staff of the Petroleum Administrative Board: M. Quinn Shaughnessy, of Cambridge, Mass.; W. H. Eaton, of Englewood, N. J.; Francis S. Walker, of New Haven, Conn.; Robert L. Stern, of New York City; John F. Davis, of Portland, Me.; David A. Moscovitz, Somerville, N. J.; R. Gordon Lowe, of Tulsa, Okla.; William S. Scully, of Los Angeles, Calif., and John H. Hollands, of Buffalo, N. Y.

PURE OIL PIPE LINE ACTIVE

The Pure Oil Pipe Line Co. set a new Michigan record this week when 30,000 bbls. of crude, or exactly the Michigan daily allowable, was run in a single day.

The Pure company is now shipping about 10,000 bbls. a day from the Delwin station on the Pere Marquette Railroad, using a 28-car loading rack now being increased to 48-car capacity. Other rail shipments aggregating about 7,000 bbls. a day are moving from the Bay City storage farm, which is used during the summer months for boat shipments to refineries on the Great Lakes.

Rush Greenslade Succeeds The Late Kendall Winship

Rush Greenslade was this week appointed vice president and general manager of the Gypsy Oil Co., succeeding the late Kendall Winship. Mr. Greenslade was already vice president and general manager of the Gulf Pipe Line Co. of Oklahoma, and the new appointment gives him jurisdiction over all the operations of both companies in Kansas, Oklahoma and the Rocky Mountain states.

The appointment is a very popular one among Mid-Continent oil men who have long recognized in Mr. Greenslade a competent executive, familiar with every phase of the production and transportation of oil.

Mr. Greenslade, a native of Ohio, joined the Gulf organization in 1914 as an attorney in the land department. He is vice president of the Kansas-Oklahoma division of the Mid-Continent Oil and Gas Association.

Late Fields

OKLAHOMA

Lewis Production Co.'s No. 2-A, C NE NE SW Section 21-24-7, Osage County, Oklahoma, flowed 30 bbls. per hour for five days, after it began producing from Bartlesville sand at 2,635-42 feet.

Stanolind Oil & Gas Co.'s No. 1, C NW NW NE Section 11-14-3, Lincoln County, produced 813 bbls. initially from pay at 4,978-83 feet.

Carter Oil Co.'s No. 5, C NW SW SW Section 20-9-6, Seminole City Pool, when plugged back from below Wilcox sand to an upper stratum, drilled into a pay at 2,750-61 feet and produced 572 bbls. of oil and 180 bbls. of water in 24 hours.

Mae Bris Oil Co.'s No. 2, C NW SW Section 33-7-4, Pottawatomie County, produced 1,028 bbls. of oil in 48 hours, on the first day also producing 152 bbls of water which increased to 600 bbls the second day. The oil is from dolomite at 4,162-98 feet.

KANSAS

The Atlantic Oil Producing Co.'s No. 1, C SE SE Section 10-19-9w, Rice County, Kansas, flowed 420 bbls. in 6¼ hours from pay at 3,014-26 feet. It had 6,000,000 feet of gas at 3,005-10 feet.

STRATFORD GAS PROJECT

CHATHAM, Ontario, Nov. 25.—The Stratford, Ontario, Public Utilities Commission is considering a proposal of the Sarnia Oil & Gas Co. headed by Leo A. Wilson to pipe natural gas from Lambton County, the commission handling distribution and sale.

ROCKY MOUNTAIN PRODUCTION

Estimated daily average crude oil production of the Rocky Mountain states in the week ending November 25 was as follows:

MONTANA	
Buckley-Border	300
Cat Creek	690
Cut Bank	1,100
Dry Creek	920
Kevin-Sunburst	3,520
Lake Basin	50
Pondera	650
Total Montana	7,230
WYOMING	
Salt Creek	18,460
Big Muddy	1,690
Badger Basin	40
Byron-Garland	970
Byron-East	10
Dallas Derby	280
Dutton Creek	70
Elk Basin	550
Ferris	0
Frannie	240
Grass Creek	680
Greybull	10
Hamilton Dome	650
Hudson	200
LaBarge	1,120
Lance Creek	210
Lost Soldier	1,760
Mule Creek	170
Midway	70
Notches	shut in
Oregon Basin	200
Osage	880
Pilot Butte	30
Rex Lake	shut in
Rock River	1,140
South Casper	shut in
Poison Spider	240
Teapot	20
Warm Springs	0
Total Wyoming	29,690
COLORADO	
Florence	200
Fort Collins and Wellington	590
Iles Dome	770
Moffat	430
Orchard	130
Rangely	100
Tow Creek	220
Total Colorado	2,440
NEW MEXICO	
Artesia	590
Cooper area	60
Empire area	0
Eunice area	1,060
Hobbs	33,530
Hogback	210
Hospah	shut in
Jal	1,620
Lea area	2,220
Jackson	1,130
Maljamar	230
Rattlesnake	820
Table Mesa	90
Total New Mexico	41,560
Total all fields	80,920
Total previous week	80,520
Difference	400

Chicago Gasoline Market Seems Better With No Distress Product Available

By SPECIAL CORRESPONDENT

CHICAGO, Nov. 27.—Developments of the past few days in the oil industry are generally accepted here as being quite constructive from the standpoint of the oil market situation. Willingness of major companies to take substantial amounts of material from the market is accepted as injecting an element of considerable strength into conditions.

At the moment, the gasoline market appears quite a little better. No gasoline of a distress nature is available and market authorities believe such material will not be much of a factor in the future, particularly if the stabilization and curtailment program is successful over the coming weeks. Few refiners have much gasoline to sell. Tone of the market is steady if not outright strong. Low octane motor is ruling around 4½ cents as a minimum and there is little available below that figure. In fact, some resellers say they are having difficulty in buying below that figure for resale. While it is impossible to be certain, there are indications that a real turn has occurred in the market and that substantially higher prices are near. Sentiment at large is much better.

Most of the sellers in this market are talking higher prices over the next few months. Few of them are willing to sell ahead. At the same time, jobbers still appear not particularly impressed over the outlook, for they are not buying very actively.

Much of such real difficulty as exists appears to have grown out of the softness in the third-grade gasoline tank car market periodically over recent months. Authorities think if this can be eliminated, most of the trouble will be over. In fact, comparatively little sign of weakness has appeared in the better grade gasolines. Even the high gravity materials with no octane rating have been meeting with a good reception. Relative firmness of natural gasoline is carrying these high gravity refinery products along at strong price levels, and northern jobbers are buying them fairly well.

Premium gasolines of antiknock rating are quiet but firm, both tank car and tank wagon markets. Such price cutting at retail as is reported is mostly in third-grade material with regular affected at some points. However, major companies are maintaining prices generally and do not seem inclined to meet spotty cut-rate competition except in extreme cases.

Kerosene has remained quiet and the product is available fractionally under best recent prices and only slightly above the levels at which best distillates are ruling. Actual consumption of kerosene is reported lower, with farm demand less and some refiners reported running it to distillate.

All products used for domestic heating purposes are firm to strong, and appear to be approaching scarcity. Distillates are fractionally higher, as are also good grades of zero gas oils. Distributors report a good call from their customers for these materials. Most products used for No. 1 or No. 2 products are bringing at least 3 cents. Zero fuels also are bringing fairly good prices, regardless of destination or source.

Industrial fuels are not weak by any means, although hardly so strong as zero items. Industrial consumers are down in their operations in many cases, but refiners do not have any great surplus of this material. Industrial gas oil continues quiet, and bought moderately by gas companies, with refiners taking limited amounts as cracking stock.

Wax prices have been advanced again one-quarter cent in this district. The current wax market is at least as tight as at any time in the recent past, with supplies at a low level and with demand good and buyers willing to bid for materials. It probably is the strongest item on the list.

Lubricating oils are strong from eastern sources and are indicated to be quiet and about steady in the Southwest. There is little feature.

Naphthas and solvents remain firm to strong. Most sellers are holding their prices without difficulty and some have advanced slightly, so that the tank car market generally is near the recently outlined price structure based on high octane motor gasoline. Demand is fairly good.

Petroleum coke prices are about steady, with demand indicated as fair.

EDMONTON RATE QUESTION

EDMONTON, Alberta, Nov. 25.—The Edmonton city council has refused approval of the proposal of Northwestern Utilities, Ltd., to institute an optional gas rate between October 28, 1933, and April 26, 1934, and has urged a general reduction. Application of the company to the Alberta Public Utilities Commission for formal approval of the proposed optional rate was deferred pending further consideration by the council.

Crude Oil Prices

(Continued from Page 25)

Rocky Mountain States

Iles, light (Sept. 29, 1933) ..... $.96
Iles, heavy (Sept. 29, 1933) ..... .90
Florence, Colo. (June 17, 1933) ..... .30
Fort Collins and Wellington, Colo. (June 17) .....(See Salt Creek prices)
Big Muddy (Sept. 29, 1933)..... 1.01
Frannie, light (Sept. 29, 1933) ..... .87
Frannie, heavy (Sept. 29, 1933) ..... .62
Salt Creek and La Barge (Sept. 9, 1933)
See Stanolind Mid-Continent price schedule
Grass Creek, light (Sept. 29, 1933) ... 1.18
Grass Creek, heavy (Dec. 15, 1932).... .45
Elk Basin (Sept. 29, 1933) 1.18
Rock Creek (Sept. 29, 1933) 1.02
Dutton Creek (July 8, 1933) .....
.....See Mid-Continent gravity prices
Lance Creek (Dec. 16, 1932) ..... .92
Poison Spider (Mar. 5, 1931) ..... .70
Hudson (June 2, 1931) ..... .65
Lander (Mar. 5, 1931) ..... .40
Rex Lake (Feb. 22, 1930) 1.10
Osage (Jan. 18, 1933) ..... .52
Lost Soldier (Sept. 30, 1933) ..... .88
Hamilton Dome (Dec. 16, 1932) ..... .35
Torchlight (Sept. 29, 1933) 1.18
Greybull (Sept. 29, 1933) 1.18
Pondera 1.15
Sunburst (Sept. 29, 1933) 1.35
Cat Creek, Montana 1.07
Hogback (Sept. 29, 1933) 1.11
Lea County, N. Mex. (Sept. 29, 1933) .. .75
Maljamar (Sept. 29, 1933) ..... .70
Artesia-Jackson (Sept. 29, 1933) ..... .70

Note—Salt Creek, Torchlight, Elk Basin, Grass Creek, Frannie, Greybull, Hogback and Iles by Stanolind Oil & Gas Co. Elk Basin, Grass Creek light, Big Muddy, Rock Creek and Sunburst by Ohio Oil Co. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective September 29, by Humble Oil & Refining Co. and other buyers; Fort Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro.
*Continental Oil Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades) 0.70
Urania, La. (Oct. 3, 1933) ..... .75
Nevada, Ark. (Sept. 29, 1933) ..... .60
East El Dorado (Sept. 29, 1933) ..... .70
Other fields.....(See gravity table)

Note—Smackover: Effective September 29, 1933, Tex. Co., Magnolia Petroleum Co., Standard of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co. and Phillips Petroleum Co. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co., Nevada by Standard Oil Co. of Louisiana. Urania posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co.

Eastern States

TIDE WATER PIPE CO.
(Effective October 4, 1933)
Bradford, Pa. $2.45
Allegany, N. Y. 2.45
SOUTH PENN OIL CO.
(Effective October 4, 1933)
Pennsylvania Grade Oil in National Transit Lines (Bradford Field) $2.45
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 2.12
Pennsylvania Grade Oil in Eureka Pipe Line lines 2.07
Pennsylvania Grade Oil in Buckeye Pipe Line lines 1.92
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Oct. 2, 1933) 1.32
PENNZOIL CO.
(Effective October 4, 1933)
Pennsylvania Grade Oil in National Transit Lines:
Group A $2.27
Includes Cochran, Franklin, Hamilton and Doolittle districts.
Group B 2.36
Includes Titusville district.
Group C 2.35
Includes Turkey and Tidioute districts.
Group D 2.34
Includes Bear Creek and Porkey districts.
Group E 2.32
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinzua districts.
Price depends on length of pipe line haul to plant at Oil City.
PURE OIL CO.
(Effective October 4, 1933)
Cabin Creek, W. Va. $2.17
Bradford Hollow, W. Va. 2.17
Kelly Creek, W. Va. 2.17

Middle Western States

OHIO OIL CO.
(Effective September 29, 1933)
Lima $1.30
Illinois 1.23
Princeton, Ind. 1.23
Plymouth .....Shut in
Western Kentucky 1.18
Midland, Mich. (Sept. 30, 1933)* 1.02
Oceana, Mich. (Oct. 5, 1933) ..... .90
Somerset, Ky. (Sept. 30, 1933) 1.23
Hart County, Ky. (Oct. 1, 1933) 1.18

*Posted by Pure Oil Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted price. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and posted price includes premium. Hart County, Kentucky, crude purchased by Stoll Refining Co. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

Canada

Ontario (September 9, 1933):
Petrolia* $2.10
Oil Springs* 2.17
Turner Valley (Sept. 11, 1933):†
Clear naphtha $3.50
Discolored naphtha 3.26
Crude oil, 50 gravity 2.93
Crude oil, 45 to 49.9 ..... 2.26
Crude oil, 40 to 44.9 ..... 1.63

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco* ..... $.69

*F.o.b. ship, based on October transactions and exclusive of production and export taxes and bar dues.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective September 6, 1933)

For current purchases of crude oil at the well (unless otherwise specified). (All gravities above those quoted take highest price offered in that field.)

Gravity—	Long Beach	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier, La Habra	Montebello	Santa Fe Springs	La Habra-Coyote	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Coyote
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	...	$.65	$.65	$.65	$.65	...	$.65	$.57	$.57	$.57	$.65
15-15.9	.65	.65	.69	.69	.66	.69	...	.66	.65	.65	.65	...	.65	...	...	...	.65
16-16.9	.66	.65	.72	.73	.69	.73	...	.69	.67	.65	.65	...	.65	...	...	...	.65
17-17.9	.69	.65	.75	.76	.73	.76	...	.72	.70	.71	.65	...	.68	...	...	...	.68
18-18.9	.72	.65	.78	.80	.76	.79	...	.75	.74	.74	.65	...	.71	.61	.61	.59	.71
19-19.9	.75	.65	.81	.83	.80	.82	...	.78	.78	.78	.65	...	.74	.64	.65	.62	.74
20-20.9	.78	.68	.83	.87	.83	.85	...	.81	.82	.81	.66	...	.78	.67	.69	.65	.78
21-21.9	.81	.72	.86	.90	.87	.88	...	.83	.85	.84	.69	$.72	.81	.70	.73	.68	.81
22-22.9	.84	.76	.89	.94	.90	.92	...	.85	.89	.87	.72	.76	.84	.73	.76	.72	.84
23-23.9	.88	.81	.92	.97	.94	.95	$.83	.89	.93	.90	.76	.79	.87	.77	.79	.75	.87
24-24.9	.91	.85	.95	1.01	.97	.98	.86	.92	.97	.93	.80	.83	.90	.81	.82	.78	.90
25-25.9	.94	.89	.98	...	1.00	1.01	.90	.95	1.00	...	.85	.87	.93	.85	.85	.81	.93
26-26.9	.97	.93	1.01	...	1.04	1.04	.94	.98	1.04	...	.89	.90	.96	.89	.88	...	.96
27-27.9	1.00	.98	1.04	...	...	1.07	.97	...	1.08	...	...	.94	.99	.93	.91	...	.99
28-28.9	1.03	1.02	1.07	...	...	1.10	1.01	...	1.11	...	...	.98	1.02	.97	.94	...	1.02
29-29.9	1.06	1.05	1.09	...	...	...	1.04	...	1.15	...	...	1.01	1.05	1.01	.97	...	1.05
30-30.9	1.09	1.10	1.12	...	...	...	1.08	...	...	...	...	1.05	1.09	1.05	1.00	...	1.09
31-31.9	...	...	...	...	...	...	1.12	...	...	...	...	1.08	1.12	1.09	...	...	1.12
32-32.9	...	...	...	...	...	...	1.15	...	...	...	...	1.12	1.15	1.13	...	...	1.15
33-33.9	...	...	...	...	...	...	...	...	...	...	...	1.16	1.18	1.17	...	...	1.18
34-34.9	...	...	...	...	...	...	...	...	...	...	...	1.19	1.21	...	...	...	1.21
35-35.9	...	...	...	...	...	...	...	...	...	...	...	1.23	...	...	...	...	...
36-36.9	...	...	...	...	...	...	...	...	...	...	...	1.26	...	...	...	...	...
37-37.9	...	...	...	...	...	...	...	...	...	...	...	1.30	...	...	...	...	...
38-38.9	...	...	...	...	...	...	...	...	...	...	...	1.34	...	...	...	...	...

Additional Standard Oil Quotations

Elwood Terrace—F.o.b. ship, 33 degrees, $1.08; 34 degrees, $1.06; 35-35.9, $1.09; 36-36.9, $1.12; 37 degrees and over, $1.15.
Newhall—14 degrees and over, 57 cents.
McKittrick and Kern River—14 degrees and over, 57 cents.
Wheeler Ridge—14 to 17.9 degrees, 57 cents; 18-18.9, 58 cents; 19-19.9, 61 cents; 20-20.9, 64 cents; 21-21.9, 67 cents; 22-22.9, 70 cents, 23-23.9, 73 cents; 24-24.9, 76 cents; 25 degrees and over, 79 cents.
Kettleman Hills—33-33.9 degrees, 93 cents; 34-34.9, 96 cents; 35-35.9, 99 cents; 36-36.9, $1.02; 37-37.9, $1.05; 38-38.9, $1.08; 39 degrees and over $1.11.
The Texas Co. posted in Shiel Canyon, South Mountain and Santa Paula as follows: 14 to 17.9, 57 cents; 3 cents added for each degree up to and including 26-26.9 degrees at 84 cents; then 4 cents added for each degree up to and including 30 degrees and over at $1. Company posts Standard Oil Co.'s Montebello prices in Montebello and North Whittier, and posts Standard Oil Co. prices in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield and Santa Fe Springs, all effective September 6.
General Petroleum Co. posts Standard Oil Co. prices in Athens, Rosecrans and Signal Hill; Alamitos Heights up to 26-26.9; Santa Fe Springs up to 35-35.9; Richfield up to 25-25.9; Brea Canyon and Olinda up to 25-25.9, and Torrance up to 25-25.9.
Union Oil Co., effective September 6, posts same prices as Standard Oil Co. in all fields in which both purchase, excepting that in Athens-Rosecrans, Union Oil Co. posts 21-21.9, 72 cents, and 33-33.9, $1.18; 34-34.9, $1.21, and 35-35.9, $1.24.
Associated Oil Co., effective September 6, posted same prices for the same grades as Standard Oil Co. of California, excepting that in some fields its gravity scale stops as follows: Huntington Beach, 26 degrees and over; Seal Beach and Alamitos Heights, 26 degrees and over; Coyote Hills, 23 degrees and over; Richfield, 25 degrees and over; Torrance, 25 degrees and over; Inglewood, 24 degrees and over; Santa Fe Springs, 35 degrees and over; Midway-Sunset, Elk Hills, Buena Vista Hills, 30 degrees and over. Also Associated pays 53 cents for oil of 11 to 13.9 gravity in McKittrick, Kern Front, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills, and Coalinga.

XUM

All Types of Oklahoma City Wells Benefited By Reconditioning With Modern Equipment

By C. E. WRIGHT
Indian Territory Illuminating Oil Co., Oklahoma City, Okla.*

The Oklahoma City Field was the first major field in Oklahoma to require rotary tools when drilling into the producing horizons. Due to lack of knowledge regarding the complicated subsurface conditions, mistakes were made in completion depths and casing points in a number of early wells which tapped the formation now known as the "Simpson-below-Wilcox." These mistakes have since rendered it necessary to recondition a number of wells. In addition, disappointing initial production at some wells and abnormal decline at others indicated that part of the producing zone had become bridged during or after completion; and, consequently, led to the necessity of later moving in tools for repair work.

A brief outline of subsurface characteristics and of completion practices will assist in an understanding of the reconditioning problems encountered:

Oil is obtained in the Oklahoma City Field at depths of 6,100 feet to 6,700 feet from a faulted anticlinal structure containing four producing oil zones, known as the "Wilcox," "Simpson-below-Wilcox," "Arbuckle Lime," and "Fault Line." Each zone may be considered a separate oil pool in that different conservation measures and production practices are necessary in the efficient handling of wells located in the different zones.

The initial formation pressure was approximately 2,600 pounds per square inch in each of the four zones.

Overlying the oil-bearing formation, in the east-central part of the field, are six dry-gas formations consisting of four sandstone and two limestone strata at depths of 4,000 feet to 6,100 feet, with initial formation pressures ranging from 1,475 to 2,400 pounds per square inch.

Use of Cable Tools vs. Rotary Tools

Some of the first reconditioning work required in the Oklahoma City Field was in 1929 and 1930, when it became necessary to deepen certain wells that had not been drilled deep enough into the producing zones on first completions. Rotary tools were not considered satisfactory for this work, as it was not usually known how much additional penetration was necessary; and, furthermore, it was desired to know the approximate depths at which increases in oil and gas might be obtained. Since rotary coring was treacherous—due to high initial sand pressure and inexperience in properly conditioning mud fluid so that consistent core recovery was possible—certain desired information often could not be secured. It was, therefore, decided to use cable tools wherever possible.

Experience gained in the use of cable tools for deepening wells was valuable in reflecting the performance of some of the producing zones at varying depths; but the cost was almost prohibitive, as reflected in the following tabulation showing the results of deepening 17 of the early Simpson-below-Wilcox wells:

RESULTS OF DEEPENING OKLAHOMA CITY WELLS WITH CABLE TOOLS

Number of wells drilled deeper	17
Average footage drilled per well	68.0
Average number of days per well	46.3
Average footage drilled per well per day	1.46
Average cost per well per day, labor, tool rental, etc.	*$110.00
Average total cost per well	$5,093.00
Average total cost per foot	$74.88

*Does not include cost of standardizing equipment.

The foregoing summary shows that 17 wells were deepened an average of 68 feet per well at an average cost of $74.88 per foot, not including the cost of standardizing equipment. It is estimated that the same deepening operations could have been performed with rotary tools for approximately $44 per foot.

Cleaning out and deepening operations were delayed by many fishing jobs, caused by caving sands and shales in the long open holes and inexperience with cable tools at great depths. It was considered essential to allow wells to flow during these operations in order that drill cuttings and caving substances would be carried out of the well; but, due to rigid proration restrictions, many of the wells became overproduced for as long as one to two years during the process. Excessive gas volumes frequently prevented cleaning out or deepening a well while it was flowing. To kill a well, and to keep it loaded while attempting to clean out or deepen, usually resulted in no progress. This was because cable tools would not work or drop freely enough in the heavy mud fluid that was required in order to prevent blowouts. Lighter fluid and water often caused excessive caving as well as threatened blowouts.

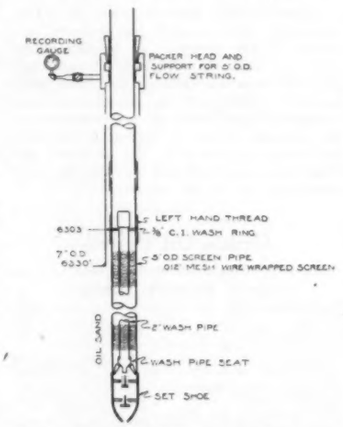

Fig. 1.—Typical screen-pipe assembly

In two wells that were cleaned out with cable tools, the 7-inch outside-diameter 24-pound A.P.I. grade "D" seamless steel casing strings were junked because of line cutting after 50 days' operation with tools in each well.

Considering the time, expense and hazards of cleaning out and drilling with cable tools when formation pressures were above 2,000 pounds per square inch, it became advisable to abolish their use for these purposes except in occasional wells. Only within recent months have changing subsurface conditions made it safe and practical to resume the use of cable tools for ordinary well-repair work. A further reduction in formation pressures should soon safely permit and encourage the completion of wells by drilling into the producing horizons with cable tools.

The requirement of rotary tools for early reconditioning work was obvious following the difficulties experienced with cable tools.

It is estimated that more than 100 wells in the Oklahoma City Field have been reconditioned with rotary tools. In considering this number, it appears unusual that no portable, semiportable, or special rotary equipment has been used.

Cleaning out, plugging back, deepening, and other repair work with rotary tools have usually been accomplished satisfactorily where proper circulating medium was used; but, due to decreasing formation pressures in the oil-producing zones, the use of rotary tools for repair work is diminishing.

Use of Screen Casing and Liners

The necessity for repeated cleaning-out operations at some of the Simpson-below-Wilcox wells that produced from long sections of open hole containing caving sands and shales resulted in the installation of liners in a number of wells. This necessity arose at about the same time that a large number of Wilcox-sand wells came in making large amounts of sand that cut off surface connections immediately on completion. In the succeeding months many of these wells were completed with production rates exceeding 30,000 bbls. of oil and 150,000,000 cubic feet of gas daily, which, in part, should explain the operating hazards.

Sand cutting of surface well connections has probably been the most dangerous operating problem that has confronted producers in the Oklahoma City Field. Installation of surface chokes reduced sand cutting, but were not usually satisfactory, because allowable production was on a "time basis" during the first two years the field produced, and the natural inclination was to flow the greatest amount of oil possible in the time permitted to produce. This was an error in early proration practice that was later corrected. Nevertheless, it was important to produce at the greatest rate possible in a safe manner. This was accomplished in a few of the Wilcox wells by installing wire-wrapped screen which effectively retarded, and usually eliminated, sand cutting.

First screen installations were run on 5-inch outside-diameter flow strings using set shoes and wash-pipe assemblies, as shown in Figure 1. Later, a few installations were made with screen liners only, which were hung on liner hangers and placed with set shoe and wash-pipe assembly.

About 50 wells in the Oklahoma City Field have been equipped with screens or liners, and practically all installations have been with rotary tools.

Types of Screening Equipment

The following types of screening equipment are listed in the order used:

Type—	Size openings (inches)	Inlet area (sq. in. per ft.)
Button type	0.020 — 60 per ft.*	3.2
Wire-wrapped	0.012 — Mesh	17.5
Perforated	⅜ — 25 per ft.	2.75
Slotted	0.250 × 3 in. — 10 per ft.	7.5

*Lineal feet.

The button-type screen was used in only one well which produced large quantities of sand and had a tremendous rate of oil and gas production from a small section of sand. The installation was on a 4¾-inch flow string, and effectively excluded sand; but, due to the small inlet area of the screen which was partly clogged, the rate of production was reduced to such an extent that the screen was ripped in order to establish a higher rate of flow.

The wire-wrapped screen, having a large surface area for oil and gas to enter, prevented sand cutting at the surface, and handled oil production at a maximum rate of 26,000 bbls. daily when used on the bottom of a 5-inch outside-diameter flow string; and, when used as a liner below the shoe of the 7-inch outside-diameter casing, the rate of flow was as high as 42,000 bbls. daily.

Selection of 0.012-inch mesh wire-wrapped screen for service in Wilcox wells was based on sieve analyses showing retention of disintegrated core samples.

The liner problem in the Simpson-below-Wilcox zone is to eliminate caving in formations below the oil strings. A number of wells have filled with cavings up to the shoe of the oil strings, and in several wells cavings have filled several hundred feet into the oil strings. This problem has usually been met by cleaning out with rotary tools and running 5-inch outside-diameter flush-joint slotted liners with ten 0.250"×3" slots per lineal feet. Common practice has been to use liner hangers for suspending the liner inside the oil string, with the bottom of the liner set above the total depth of the hole; so that in the event water should appear in sand below the liner, the lower section of the hole could be plugged off without moving the liner.

The installation of liners in a large number of wells in the Oklahoma City Field will probably become routine practice as the field approaches the pumping tools without using thick mud which might damage the producing zone.

It has been found that the removal of screening equipment from wells in this field is greatly facilitated by loading the hole with oil instead of mud or water. The removal of screening equipment was impossible in several wells in which mud or water was used.

Plugging-Back Operations

(a) Dump bailers: Early attempts to shut off salt water in the Oklahoma City Field were made with dump bailers of various designs. These attempts were generally unsuccessful, due principally to high fluid levels and caving formation which often caused the bailer to dump before reaching bottom.

A 4½-inch outside-diameter bailer was found to be the largest size practical to run. Only 4.4 sacks of cement could be run in a 60-foot bailer at one run, and from 50 to 100 sacks were needed for each job. From 20 minutes to 30 minutes were required for lowering a bailer of cement to bottom through the high fluid levels. Aside from the usual contamination of cement dumped in small batches, the long periods of time between trips caused each batch to take a partial set—which was disturbed by subsequent dumps. This was not conducive to a sound plug. The time required to conduct the entire operation was prohibitive from several standpoints.

Since plugging attempts were first made with bailers, fluid levels have receded substantially—enabling faster trips to bottom; and it is now possible and practical to place short plugs with suitable dump bailers.

(b) Plugging back through tubing: In the average Mid-Continent Field, plugging back with cement through tubing presents no particular complications. However, considering the nature of formations, high pressures, and extreme depth of wells in the Oklahoma City Field, this operation has required especial attention.

Obvious conditions have made it desirable to use cement in almost all plugging operations for the purpose of shutting off water.

The usual procedure is carefully to run tubing to about three joints above where the bottom of the plug is to be placed;

*Before annual convention, American Petroleum Institute, Chicago.
Author's title, "Reconditioning of Wells in the Oklahoma City Field."

then the last three joints are circulated or pumped down until measurement and action of pumps indicate that tubing is on bottom. By following this procedure the possibility of running into cavings or bottom, and of plugging the end of the tubing or otherwise damaging the string, is considerably reduced. In cases where there is a large amount of open hole or where a long plug is to be placed, inserted tubing is used in the lower part of the tubing string in order to reduce adherence of cement to the tubing.

After reaching bottom with tubing, the hole is washed thoroughly; and, if circulation is obtained so that fluid equalizes inside and outside the tubing when pumps are shut down, and there is no disturbance in the well, the hole is ready for cementing. If it is impossible to establish circulation, and it is desired to abandon the stratum which is to be plugged, a suitable clay may be placed in the bottom of the hole to perfect a stage. As sand pressures decline, more

Fig. 2.—Time-bomb cases

liners will be set with cable tools and other methods, as it will become impossible to establish circulation with rotary seal that would permit establishing circulation before placing cement. If, however, only part of a stratum is to be cemented off, and circulation cannot be obtained in the usual manner, cement may be placed without establishing circulation — rather than to use clay which might reduce the bonding effect of the cement.

Where normal circulation is obtained, the quantity of water necessary to force cement out of the bottom of the tubing is pumped in, but not more than enough water to force cement more than 30 feet into the annular space between the tubing and drilled hole. Tubing should then be raised; and, by pumping at the surface, the cement is caused to rise in the hole, and kept not more than 30 feet up around the tubing — if possible. This should result in placing a uniform plug. When tubing is raised to approximately 5 feet above where the top of the plug is desired, fluid is circulated in the hole until all excess cement has been washed out. The time of washing out excess cement may vary considerably, depending on whether the formation above the plug is taking water and, also, depending on the speed and efficiency at which pumps are running.

When plugging back at great depths, careful preparation must be made. Before a cementing operation starts, all surface equipment is carefully examined, and the crew is instructed as to the nature of the job and the proper handling of tubing and connections. Before starting to mix cement, a test of the equipment is made by pulling the tubing at least one stand, in order to determine if speed and power are adequate to perform the job successfully.

A difficult feature of a plugging-back operation in the Oklahoma City Field is the correct estimation of the amount of cement needed. Amounts needed for different wells vary from 25 to 400 per cent more than calculations based on size of drilled hole.

Plugging operations through tubing and drill pipe have been performed with cable tools, rotary, tractor and winch, and portable hoists for handling tubing and drill pipe.

(c) Plugging back by "formation job": A number of wells having only one producing stratum open below the oil string have been plugged back by pumping cement directly into the casing, using a top cementing plug in the same manner as on a casing job. The cement and plug are pumped down the casing until the plug reaches a predetermined level, as shown by the measuring line. The liquid ahead of the cement goes into the formation.

Among prerequisites for conducting a "formation" job is sufficient permeability of the producing stratum to take water under moderate pump pressure. This is tested before the job is started so as to determine the time required to pump the cement down the casing. After a "formation" job, if it is desired to open up production from the stratum plugged back, it is necessary to drill out the plug in stages until satisfactory production is secured.

This method of plugging off bottom water has met with fairly uniform success where conditions permitted its use.

"Drilling-in" and Reconditioning—Using Oil as a Circulating Medium

In order to eliminate the loss of water and mud fluid to the oil-producing sands while drilling-in or reconditioning wells that have formation pressures low enough to be damaged by water and mud, several wells have been completed and others reconditioned using crude oil of gravities ranging from 25 to 30 degrees A.P.I. as a substitute for regular drilling mud.

Some types of mud have a tendency to penetrate formations in wells where sand pressures are low or drainage channels have been established and "mud off" the pay zones, resulting in reduced production rates. In some cases muds have been known to penetrate sufficiently to affect offset wells, and in one case actually killed an offset well which had been flowing.

Drilling oil is usually hauled to the lease stock tanks. A circulating pit is filled with about 175 bbls. of drilling oil before starting. While filling the hole, oil is pumped from stock tanks to replenish the supply in the circulating pit. An excess of 150 bbls. is usually kept in the circulating pit as reserve during drilling operations.

The circulating oil is used to replace mud after all but 5 or 10 feet of cement has been drilled out of the casing. Drilling operations are then carried on in a normal way until completion.

Some of the observations noted in using oil as a circulating medium follow:

1. A relatively sharp line of separation was maintained between oil and drilling fluid at time of displacement.

2. From 25 to 50 pounds lower circulating pump pressures were noted at 6,500 feet.

3. Gravity of oil remained unchanged during drilling operations, and the oil did not gas out.

4. Drill cuttings were carried out satisfactorily.

5. Usually no drilling oil was taken up by the sand while cleaning out or drilling.

6. "Bailing-in" time was expedited by use of drilling oil.

7. Comparison of initial production of wells drilled with oil with adjoining wells drilled with water or mud indicated higher initial production as a result of using oil as the circulating medium.

Shooting Practice

Because casing perforators used in the Oklahoma City Field have not generally penetrated to a sufficient distance back of cemented casing to bring in production of oil or gas, the practice of shooting was resorted to.

Data have been obtained from the results of shooting back of 7-inch and 9⅝-inch outside diameter casing strings in order to produce dry gas from the various upper gas strata. A summary of these results and processes used in shooting 36 wells follows:

(a) Size shot: Best results were obtained from shots larger than 100 quarts.

(b) Size shell: One and one-half to two quarts of nitroglycerin per foot attained best results. In one case a shot of 1 quart to the foot, using 40 quarts in 40 feet, failed to bring in the well; while an 80-quart shot in the same 40 feet brought in a large gas well.

(c) Tamping: Fairly consistent and successful results came from dry-hole shooting or with a small amount of liquid covering the shot. However, a few large wells have been brought in with shots covered with a hole full of water, but the former practice was apparently most effective.

(d) Ripping casing before shot: Ripping before shooting showed no apparent advantages over ordinary shooting, in that larger wells were not obtained. Five out of seven wells that were ripped before shooting bridged following the shots.

(e) Final results: Best shooting practice through 7-inch or 9⅝-inch casing strings in order to open up gas formations appeared to be to use 1½ or 2 quarts of glycerin per foot, contained in 3-inch or 3½-inch shells with oil or water in hole sufficient to cover the shot. The shooting of oil sands back of cemented casing has likewise been most successful following this practice.

Bomb Cases and Glycerin Shells

Figure 2 illustrates three types of bomb cases. The bomb case shown on the left, made of cast iron, weighs 35 to 40 pounds, and has never attained wide usage. The bomb case on the right is constructed of cast iron or steel, weighs about 15 pounds, and is commonly used in the Oklahoma City Field. The bomb case shown in the upper center of Figure 2 is made of laminated bakelite, weighs about 3 pounds, and is a new development used for the first time in the Oklahoma City Field.

Figure 3 illustrates bakelite bomb cases and bakelite glycerin shells of various sizes, showing from right to left

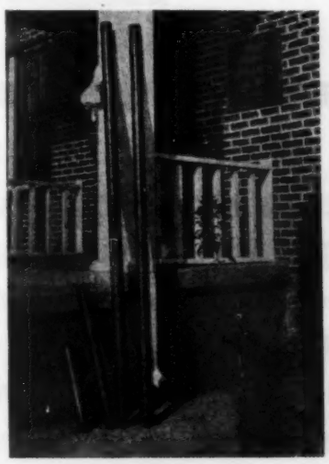

Fig. 3.—Bakelite bomb cases and glycerin shells

an 11-hour bomb, a 23-hour bomb, and two glycerin shells made to hold 1½ quarts of glycerin per foot.

The use of metal bomb cases and glycerin shells often resulted in the bridging in the hole of distorted metal fragments, such as those shown in the lower center of Figure 2—resulting from the explosion of a heavy tubular steel bomb case. Bakelite cases were used in an attempt to provide a material which would be completely shattered by the explosion, and results have been entirely satisfactory; as in flowing wells so shot cleaning has been either eliminated or has required much less time, since the bakelite fragments are light and do not tend to ball up. The insulating properties of bakelite render unnecessary the water jacket required on a metal shell, and permit a larger diameter of shell and heavier charges.

During the past four years, a number of Oklahoma City operators have installed winch or power-driven measuring line devices on automotive equipment. In general, these power-driven lines are used for running instruments for determining bottom hole pressures, obtaining bottom hole samples of liquids, making vertical deflection tests, and measuring depths of wells.

For investigating subsurface producing conditions before beginning reconditioning operations, the measuring devices are used to determine the amount of cavings in the well, bottom hole pressures, etc.

Cleaning-out and Tubing Machines

For more than a year a modified cable tool system has been used for a considerable amount of cleaning out, running tubing, and other reconditioning work.

The need for economies in reconditioning of wells in the Oklahoma City Field has resulted in the development of new equipment. One interesting example of this is a semiportable hoisting machine which was built primarily for cleaning out and tubing wells. The machine is powered by a 10"x10" twin-cylinder steam engine that operates at a working pressure of 125 to 135 pounds. The hoist operates at low and high speeds, and has a friction clutch. The drum is 20 inches in diameter and 37 inches wide, with a spooling capacity of 5,500 feet of 1-inch line or 7,000 feet of seven-eighths inch line. Brake surface is sufficient, and is designed so that no water is required for cooling. All bearings are of the roller bearing type.

An outstanding feature of this equipment is speed of performance. It is not uncommon to haul and rig up a cleaning-out machine of this type in one day and run 6,500 feet of 2½-inch tubing in singles in five to six hours.

Good results are being obtained cleaning out wells with portable hoists, using bailing lines and pressure type bailers for removing cavings. From 100 to 300 feet of cavings are cleaned out in from three to six days in the average Wilcox sand well, but in the Simpson, below the Wilcox, more time is usually required due to longer sections of open hole and more caving formations.

When cleaning out a well, the crew consists of a driller and helper who run tour. When running or pulling tubing, an extra tubing crew is used to operate cathead, spinning rope, tongs, spider, and for stabbing. Additional men prepare the tubing by steam cleaning and lubricating threads.

There are a few other semiportable hoists similar to the one just described that have approximately the same features.

Other types of portable well servicing machines used in the Oklahoma City Field are tractors and trucks equipped with winches. The tractor type has a drum 17 inches in diameter and 56 inches long, mounted on roller bearings. The engine is rated at 50 horsepower. The winch has eight speeds forward and two in reverse. Line travel ranges from 100 feet per minute in first speed to 1,100 feet per minute in the eighth speed. The bare pull on drum decreases from 24,700 pounds in first speed to 2,250 pounds in the eighth speed, with a maximum pull on bare drum in reverse of 31,900 pounds.

Speed and power of the steam-operated hoists are about one-third greater than those operated by gasoline or gas engines; while the tractor and truck winches are more portable, and faster in moving in and rigging up. Both types have apparent advantages and disadvantages, but are generally very satisfactory for performing reconditioning work as heretofore described.

Considering that the cost of certain types of reconditioning work with semiportable hoists or tractor and truck winches is from three to five times less than when using rotary or cable tools, economies of the performance of such equipment are readily apparent.

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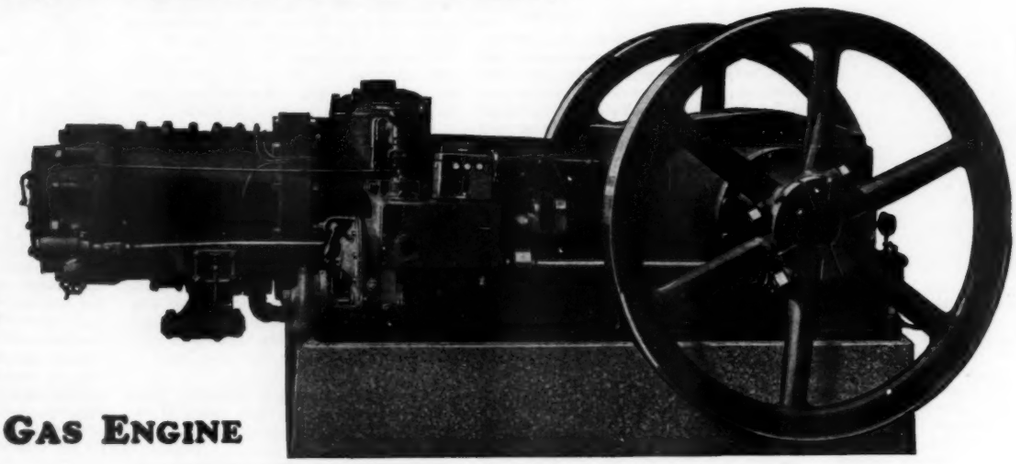

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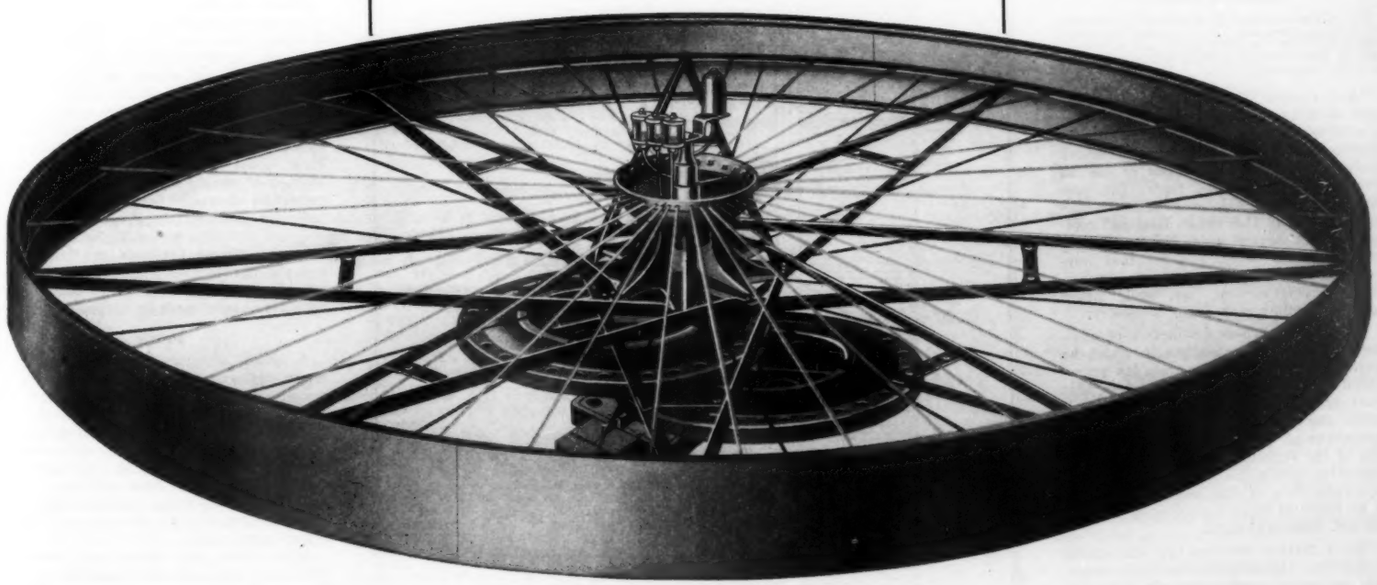

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Government Issues Order Allocating Gasoline Stocks

(Continued from Page 10)

inventories and production of gasoline follows:

"Whereas, under date of November 22, 1933, the administrator of the code of fair competition for the petroleum industry, acting pursuant to Article 4 of said code and the order of said administrator dated October 19, 1933, divided the country into refining districts as set out below, and determined the relationship of gasoline inventories and sales for each such district, which translated into quantities is as follows:

District—	Total stocks of gasoline at refineries, in bulk terminals, transit and pipe lines as of Dec. 31, 1933 Amount 42-gal. bbls.	% of Sales* year ended 9-30-33
1. East Coast	14,065,000	20.3
2. Appalachian	2,360,000	13.9
3. Ind.-Illinois-Kentucky	7,220,000	11.5
4. Okla.-Kans.-Mo.	5,780,000	11.0
5. Texas:		
(a) Inland Texas	1,930,000	6.5
(b) Texas Gulf	4,940,000	7.0
Total Texas	6,870,000	6.9
6. Louisiana-Arkansas:		
(a) N. La.-Ark.	450,000	5.5
(b) Louisiana Gulf	1,320,000	9.2
Total La.-Ark.	1,770,000	7.7
7. Rocky Mountain	1,125,000	13.0
8. California	11,810,000	18.2
Total U. S.	51,000,000	12.8

*By sales as above used is meant total shipments out of refineries and bulk terminals less receipts from other refineries and/or bulk terminals.

"Therefore, be it resolved and ordered that the gasoline production in the various refining districts for the months of November and December, 1933, shall not exceed the following:

District—	Amount 42-gal. bbls.	% Of net shipments of gasoline out of refineries and bulk terminals, Aug.-Sept. 1933
1. East Coast	11,535,000	90.1
2. Appalachian	2,660,000	77.0
3. Ind.-Illinois-Kentucky	9,820,000	77.3
4. Okla.-Kans.-Mo.	7,990,000	77.8
5. Texas:		
(a) Inland Texas	4,500,000	83.3
(b) Texas Gulf	10,930,000	89.0
6. Louisiana-Arkansas:		
(a) N. La.-Ark.	1,200,000	79.6
(b) Louisiana Gulf	2,160,000	76.8
7. Rocky Mountain	1,365,000	79.5
8. California	10,070,000	86.5
Total U. S.	62,220,000	

*Net shipments in this connection means total shipments out of refineries and bulk terminals less receipts at those refineries and/or bulk terminals from other refineries or bulk terminals.

"And further, that each refining company shall conduct its operations so that it will contribute its full share to the attainment of the gasoline inventory levels prescribed in the order of the oil administrator above set forth, and production limitations in line with requirements shown in this order. Regional committees are requested to take steps to carry out this order, and for that purpose are authorized to use trade associations, subcommittees, or such other agencies as they may deem necessary.

"Any refiner whose production of gasoline in the refining districts in which he operates will exceed the amounts represented by the percentages listed in this order applied to his own shipments shall notify the Planning and Co-ordination Committee at Washington and the chairman of the regional or state refining subcommittee within his region within seven days from date of this order, such notice to be followed immediately with reasons and full historical data.

"Be it further resolved that the stocks of gasoline at refineries, in bulk terminals, in transit, and in pipe lines for the entire United States as of March 31, 1934, should not exceed 52,500,000 bbls., and that the objective of further orders from month to month will be to attain that level as a maximum.

"I hereby certify that the above and foregoing resolution was adopted by the Planning and Co-ordination Committee in formal session held in Washington on November 22, 1933.

(Signed) R. B. BROWN,
Secretary."

The order of Oil Administrator Ickes on the subject follows:

"Under the authority of the provisions of Section 1, Article 4, of the code of fair competition for the petroleum industry approved by the President on August 19, 1933, under the provisions of Title 1 of the National Industrial Recovery Act, approved June 16, 1933, the President's order of August 28, 1933, and the administrator's order of October 18, 1933, the United States is divided into refinery districts as follows:

"No. 1. East Coast—To include refineries located in all states bordering the Atlantic Ocean, except refineries located in western New York and western Pennsylvania.

"No. 2. Appalachian—To include refineries located in western New York, western Pennsylvania, West Virginia and eastern Ohio.

"No. 3. Indiana, Illinois, Kentucky, etc.—To include refineries located in Michigan, western Ohio, Indiana, Illinois, Kentucky and Tennessee.

"No. 4. Oklahoma-Kansas—To include refineries located in Oklahoma, Kansas, Missouri and Iowa.

"No. 5. Texas—To include refineries located in Texas, divided into two subdistricts: (a) Inland Texas; (b) Texas Gulf Coast.

"No. 6. Louisiana-Arkansas—To include refineries located in Louisiana, Arkansas, Alabama, and Mississippi, divided into two subdistricts: (a) Northern Louisiana and Arkansas, including Mississippi; (b) Louisiana Gulf Coast, including Alabama.

"No. 7. Rocky Mountain—To include refineries located in Montana, Wyoming, Utah, Colorado, Arizona, New Mexico, western South Dakota and western Nebraska.

"No. 8. California—To include refineries located in California.

"It is hereby further determined, in accordance with Section 1, Article 4, of the aforesaid code and the order of the administrator hereinabove referred to, that the inventories of gasoline, including stocks held at refineries, bulk terminals, in pipe lines, and elsewhere, but not including stocks of natural gasoline, at the close of December, 1933, shall for each district be such quantity as will be ascertained by applying the percentage shown in the accompanying table for such district to the total sales for such district during the 12 months ended with September 30, 1933, such sales for each district to be calculated from the statistical data on gasoline production and stocks reported monthly by the U. S. Bureau of Mines."

Source of Various Salts Recovered Explained by Geologist

(Continued from Page 18)

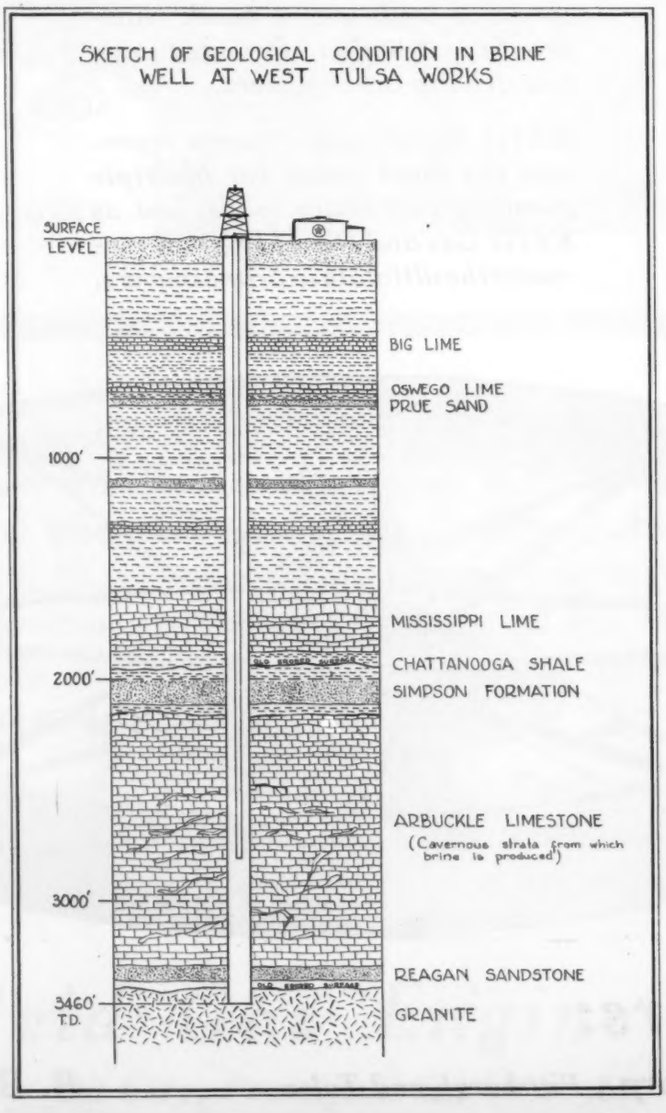
possibly, the sea water circulating through the limestone picked up additional salts from the formation in which it was trapped. The limestone itself, you know, was deposited in the sea.

Source of Calcium

"As to the calcium, that undoubtedly came from the limestone itself, for it is calcium carbonate. The missing sulphates may involve some sort of reduction process. They may have been reduced to form hydrogen sulphide or combined with iron to form pyrites (iron sulphide). The organic matter in the overlying Chattanooga and Tyner shale may have been an effective reducing agent, and we know that at the present time sulphates are being reduced to hydrogen sulphide on sea bottoms where there is much organic matter. Organic muds often smell strongly of it."

"And how much brine do you suppose there is here?" asked the stockholder.

"Plenty," answered the geologist. "Let's see: The Arbuckle limestone is about 1,250 feet thick, and let's suppose 5 per cent of this is pore space. By doing a little multiplication one can see that there is a lot of salt water here. Sixty pore spaces over a square mile would mean that there are 1,672,704,000 cubic feet of brine under every square mile. Let's convert it into tons of salt. By multiplying through, we find that we have 57,708,288 tons of brine, which contain 9,988,534 tons of salt. Yes, there's lots of salt to run the plant, for the Arbuckle limestone extends under most of northeast Oklahoma."



Gasoline Weak in East; Trade Waiting on Code

(Continued from Page 23)

vania, stocks will have to be reduced from 14,298,000 bbls. the middle of November to 14,065,000 bbls. on the last day of December. In years past this area often has added 750,000 or more barrels to gasoline storage during December.

To accomplish the Government's objective it will be necessary to curtail crude runs to stills. It is said that the December total runs for United States will be around 2,000,000 bbls. daily which will probably mean that the runs for refineries in this territory will be around 400,000 bbls. daily. This compares with runs which have totaled from 416,000 to 480,000 bbls. daily in recent weeks based on A.P.I. reports.

Observers are in agreement that if such a plan can be carried out for December, a better tone to tank car markets for all products in this territory would develop. The curtailment would tend to restrict gasoline supplies in this section to the point where the danger of dumping would be eliminated. The plan also would reduce the amount of material coming to the East Coast terminals from independent sources of supply at the Gulf Coast. The reduction in crude runs to stills would be reflected immediately in the supplies of residual fuel oils, gas oils, distillates and kerosene. These products are steady in today's market and with the winter season of consumption here any reduction in supplies should serve to stiffen prices.

Prices

A check of prices as quoted by the major refiners in this territory failed to reveal any important changes except for the gasoline situation previously explained. Bunker fuels are moving in fair volume at $1.10. Gas oils suitable for cracking are in demand at 4½ cents and the U.G.I. material also is firm at 4 to 4¼ cents. No special activity in Diesel oils is reported with the price of $1.95 being maintained.

Wax prices for export and domestic movement are unchanged from last week. This market is strong with most manufacturers sold up over the balance of the year. Buyers are still slow in accepting present prices for delivery over the first two months of 1934. The demand for low viscosity neutrals has increased with less activity in the steam refined stocks and high cold test bright stocks. Prices on these products are unchanged.

Report Sixteen New Locations in Permian Basin; Sixty-Six in Ranger and Wichita Districts

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Nov. 27.—Sixteen more locations were reported for the Permian Basin this week. Ten of these were in the Yates Field, Pecos County, nine being announced by the Mid-Kansas Oil & Gas Co. which staked location for a like number last week. Fuhrman Petroleum Co. made location for another test in Andrews County, in the area which the company opened about three years ago, and in which two wells are now producing. The new location is in the NE cor. Section 25, Block A-43, midway between the other two producers.

Continental Oil Co. made location for No. 2-C Cowden in the NW cor. Section 81, Block X, C.C.S.D.&R.G.N.G. Survey, in an area where there has been no drilling for several years. This area is a north extension to the old McCamey-Taylor area of Crane and Upton County, the new test being in Crane County.

Two locations were staked in Glasscock County and one in Howard County. Continental Oil Co. made a location on its Gilbreath lease in Section 24, Block 33, Township 2s, T.&P. Survey, in the extension area of Glasscock County.

Eight Completions

There were eight tests completed in the district this week, the six producers adding an initial production of 2,624 bbls. per day to the district.

O. O. Owens' No. 1 Mills test in Section 128, Block 1, I.&G.N. Survey, near Pandale in the extreme northern part of Val Verde County, was abandoned this week at a total depth of 6,780 feet after having been carried shut down at this depth for four years. The test created considerable interest when it logged a gas showing of 3,000,000 feet between 2,491-2,520 feet in lime, but deeper drilling failed to pick up an increase in gas or a showing of oil. Atlantic Oil Producing Co. acquired an interest in the test after the showing of gas was logged.

Ordovician Tests

Gulf Production Co.'s No. 103 McElroy in Section 197, Block F, is drilling slowly at 8,050 feet after picking up a showing in sandy lime from 7,882-99 feet. This is an Ordovician test on the extreme east edge of Crane County.

Humble Oil & Refining Co.'s Ordovician test in Section 44, Block F, T.C.R.R. Survey, on the White and Baker ranch, approximately 9 miles west of the Yates Field in Pecos County, is below 5,935 feet. This test has had plenty of trouble with fishing jobs and by losing mud, but is apparently getting along all right at the present.

Val Verde County

Southwestern Exploration Co. of Houston is planning to drill a wildcat in Section 14, Block L, G.C.&S.F. Survey, on the E. K. Fawcett ranch in the northern part of Val Verde County. It will be drilled to 4,500 feet unless oil in commercial quantities is found. Location is near Vinegarroon and 9 miles west and 3 miles south of the old Magnolia Petroleum Co.'s No. 1 Whitehead abandoned about five years ago. This will be the first test drilled in the county since.

Reagan County

Big Lake Oil Co.'s No. 9-B University, on the eastern edge of the Ordovician producing area in the Big Lake Field, Reagan County, is waiting on cement to set at 8,700 feet after plugging back from 8,850 feet. It will be treated with acid in an effort to increase production which is estimated at about 7 bbls. per hour without treating.

Gaines County

Major companies are busy leasing in various counties in the district, Gaines County being one of the most important trading centers at the present time. Much of the acreage is believed to be leased with intentions of drilling Ordovician tests or holding for some time before drilling these deep tests in an effort to pick up the prolific, high gravity producing formation which has paid off exceptionally well in the Big Lake Field, Reagan County. The majority of the leases are taken on 10-year terms with 25 or 50-cent rentals. These prices have had considerable influence on leasing the properties for future exploration, companies realizing that now is the time to lease for potential reserves of crude.

RANGER DISTRICT

The Ireland Oil & Gas Co. (J. S. Pugh, Sr. and others) has staked location for a 3,500-foot cable tool test on a 17,000-acre block which is about 15 miles south of Hamilton on the Hamilton-Coryell County line, but in Hamilton County. This is in a prospective gas producing area according to scouts who have been watching the area. Location is on the George L. Doyle farm in the Isaac Adams Survey No. B-1,492.

The Hamilton Oil & Gas Co. (C. Borden and others) has spudded a test in the William Little Survey, 12 miles west of Hamilton in Hamilton County. The company owns an 8,000-acre block surrounding the test which is to go to 2,600 feet and be drilled with cable tools. Former tests in the area showed gas in shallow and 2,600 foot horizons.

Mrs. Elizabeth Fitzhugh of Austin has assembled an 8,000-acre block northeast of Lampasas in Lampasas County and has erected a standard derrick to drill a 2,700-foot cable tool test.

Mark Hearn Oil Co. is drilling at 1,100 feet on the F. Atkinson land in the northern part of the John Hamilton Survey, adjoining the town of Burnett in Burnett County.

These tests show an increased interest in this tier of counties which has heretofore had but few tests for oil and gas, but which may get greater interest from both big and little companies.

Production in the Panhandle district increased by 1,185 bbls. per day this week over the previous week. This week's daily average ran 39,160 bbls. from 1,984 wells.

WICHITA FALLS DISTRICT

There were 66 locations reported for the Ranger and Wichita Falls districts this week, activities gaining in these areas almost every week, with independent operators and smaller companies heading the active list in leasing and drilling.

The Associated Developers Co., made up of the Reno Oil Co., King Royalty Co., United Producers Co., Petroleum Producers, and Bolin & Lindsley, all of Wichita Falls, has been organized to drill several deep tests in Archer and Young Counties. Location has been made made for a 6,000-foot test in the T.E.&L. Survey No. 286, 7 miles northeast of Newcastle in Young County. Other locations are to be announced later. The present price of oil, favorable allowable and desire on the part of pipe line companies for oil in the district has resulted in the organization and proposed tests.

The W. T. Hutchinson test on the W. L. Andrews farm, 4 miles northwest of Archer City in the north half of Archer County, and in the southeast corner of the D.L.&C. Survey No. 446, which logged oil sand from 1,064-69½ feet last week and filled up 800 feet with oil in 12 hours, still remains untested but is estimated good for about 40 bbls. per day. It is 7,000 feet southeast of the Oil Investment Pool and 9,000 feet west of the old Hutchinson Pool, consequently opens another area or an extension to the other two pools. Location for an offset test has already been staked by the owners of this first test.

The Standard Oil Field Supply Co., of Houston, has purchased 48 miles of 4 and 6-inch pipe which extends from the American Refining Properties line in Wichita Falls to Duncan, Okla. The line was laid in 1920 and will be taken up with the idea of salvaging as much of it as possible.

Pipe line runs from the district averaged 56,495 bbls. for the week, a decrease of around 465 bbls. per day under the previous week's average.

Christie Brothers of Wichita Falls have acquired a 1,200-acre block centering in the southwest quarter of the T.E.&L. Survey No. 474, Young County, and will drill a 4,000-foot test in an effort to pick up production in the 3,800-foot lime horizon.

Simms Oil Co. has subleased 600 acres from the Sun Oil Co. paying an overriding royalty. The leases have been perpetuated the past 15 years by shallow sand production. This is in the Megargel area of Archer County. Leases on 600 other acres have been taken in the area by the company. C. W. Boller and others recently brought in the discovery well on the Farmer ranch which is located about 4 miles northeast of Megargel.

Wildcat Operations in West Texas

Week Ending November 27

Company, well, farm name, section and block—	Remarks:
ANDREWS COUNTY	
Fuhrman Pet. Co.'s No. 1-B Bonner, 1,320 ft. from N line and 1,320 ft. from E line of Sec. 25, Blk. A-43, P.S.L. Sur.	Location.
BREWSTER COUNTY	
C. M. Joiner's No. 1 McIntyre	To run csg.; T.D. 1,100 ft.
COKE COUNTY	
C. D. Hagerty et al's No. 1 Gaston, in Joseph Young Sur. No. 11	Fishing 1,100 ft.
CONCHO COUNTY	
Mintex Oil Co.'s No. 2 Waring Estate, 660 ft. from N line, 150 feet from W line SW ¼ Sec. 2120, A. T. Robinson Sur.	Underreaming 2,660 ft.
CRANE COUNTY	
Continental Oil Co.'s No. 2-C Cowden, 330 ft. from N line and 1,650 ft. from W line, Sec. 81, Blk. X, C.C.S.D.R.G.&N.G. Sur.	Rig up.
Gulf Prod. Co.'s No. 1 Edwards, 330 ft. from S line and 330 ft. from E line of Sec. 21, Blk. B-18, Public School Land Sur.	Drlg. 1,800 ft.
Loffland Bros.' No. 1 Tubbs, 1,334 ft. from N line, 1,320 ft. from W line, Sec. 9, Blk. 27-B, P.S.L. Sur.	Testing 4,339 ft.
CROCKETT COUNTY	
Porter Rankin's No. 1 Todd, 1,500 ft. from N line and 3,020 ft. from E line of Sec. 68, Blk. UV, G.C.&S.F. Sur.	Location.
ECTOR COUNTY	
Atlantic Oil & Prod. Co.'s No. 1 Holt, 1,980 ft. from N line and 660 ft. from E line of Sec. 19, Blk. A, P.S.L. Sur.	Set csg.; T.D. 146 ft.
Atlantic Oil & Prod. Co.'s No. 2 Holt, 660 ft. from N line and 1,980 ft. from E line of Sec. 19, Blk. A, P.S.L. Sur.	Location.
Atlantic Oil & Prod. Co.'s No. 1 Jones, 3,310 ft. from N line and 440 ft. from W line of Sec. 36, Blk. 43, Twp. 2s, T.&P. Sur.	Drlg. 1,285 ft.
Broderick & Calvert et al's No. 1 E. F. Cowden, 2,240 ft. from E line, 330 ft. from S line of Sec. 25, Blk. 44, Twp. 2s, T.&P. Sur.	Well shut in; T.D. 4,338 ft.
Broderick & Calvert's No. 1 Cowden, 1,980 ft. from S line and 1,980 ft. from N line of Sec. 16, Blk. 43, Twp. 2s, T.&P. Sur.	Derrick.
Harrison et al's No. 2 Addis, 990 ft. from N line and 2,200 ft. from W line of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur.	Drlg. 3,426 ft.

(Continued on Page 46)

COMPLETIONS IN WEST TEXAS

Glasscock County

Simms Oil Co.'s No. 2-A Coffee, top pay 2,100-12 feet, initial production 28½ bbls. of oil per hour, total depth 2,160 feet.

Howard County

Merrick and Lamb's No. 8 Chalk, top pay 1,692-1,719 feet, initial production 300 bbls. of oil per day pumping, total depth 1,738 feet. Continental Oil Co.'s No. 8 Settles, top pay 2,275 feet, total depth 2,538 feet, plugged back to 2,400 feet, initial production 34 bbls. of oil per hour on proration test.

Pecos County

D. W. Dittman and others' No. 1 Fromme, abandoned, hole full of sulphur water, total depth 1,571 feet.

Val Verde County

O. O. Owens' No. 1 Mills, abandoned, total depth 6,780 feet.

Ward County

Gulf Production Co.'s No. 36 O'Brien, top pay 2,545 feet, initial production 478 bbls. flowing per day, total depth 2,760 feet; No. 22 Hutchins, top pay 2,550 feet, initial production 321 bbls. flowing per day, total depth 2,765 feet.

Winkler County

Wahlenmaier Petroleum Co.'s No. 1 Leck, top pay 2,590-93 feet, initial production 25 bbls. per day, total depth 3,133 feet.

Taylor County

Dunnigan Brothers' No. 1-A Hunter, top pay 2,357 feet, initial production 110 bbls. through tubing, total depth 2,360 feet.

XUM

Freestone Test Fails to Extend Producing Area; New Tests in Leon and Anderson Counties

By L. E. BREDBERG

DALLAS, Tex., Nov. 27.—Humble Oil & Refining Co.'s No. 1 Dietz in the Simon Sanches Survey No. 6, just west of the Trinity River in Freestone County, failed to extend the Long Lake area by about 2¾ miles. It drilled into salt water and is shut down at 5,327 feet repairing drawworks preparatory to drilling deeper to check the depth of the Woodbine section in this area. A drill stem test from 5,277-5,399 feet on November 24 showed 4,955 feet of salt water and drilling mud. Total depth is 127 feet in the Woodbine section, or around 135 feet lower on structure than the Long Lake discovery to the southeast in Anderson County.

The Tide Water Oil Co. and Texas Seaboard Oil Co. lost their No. 2 hole on the Monnig farm at 1,690 feet, 1,866 feet due west of their discovery and are now drilling at 200 feet in a new hole which will probably be carried as No. 2 or No. 2-A. The companies are moving in material for a third test, 3,732 feet south and 2,799 feet east of No. 1, or approximately three-quarters of a mile southeast by airline.

The discovery well had produced 4,079 bbls. up to November 24. It is pinched to 47 bbls. of oil per day, making sufficient gas for the drilling of the two tests on the same farm.

New Test in Leon County

E. L. Smith Oil Co. and others are preparing to spud their No. 1 William Simpson in the A. Penn Survey, Leon County, approximately 11 miles southwest of the Long Lake discovery. This is on a trend almost midway between the Long Lake discovery and Shell Petroleum Corp. and others' No. 1 Beggs gas well in the John Carter Survey of Leon County which cored from 5,973-83 feet showing hard black shale and hard grained sandy shale with few streaks of lime. A core was taken from 5,983-93 feet but failed to make recovery, cutting very hard. It is now coring ahead. It can still be plugged back to produce the gas above. The last drill stem test taken at 5,829 feet showed around 75,000,000 feet. Another location for the block of some 17,500 acres is expected soon. Gas from the Beggs well will be used. The first test on the Phillips farm in the Swayze Survey was dry. Just as the Humble-Dietz test cut down the size of the potential pool in the Long Lake area, the Phillips test eliminated considerable acreage on the Buffalo structure in the Leon County area.

Another location was announced in Leon County this week. Sutton and Hawkins reported a test for the F. C. Wilson farm in the A. Ogden Survey. The owners, also reported as the Nivla Oil Corp., are rigging up.

Laco Oil Co. has set surface casing on its No. 1 George Pace in the James B. Atwood Survey, 3½ miles northeast of Athens in Henderson County.

J. W. Hallsell and others have a derrick up on the P. F. Jones farm, 2½ miles south of Alba in the B.B.B.&C. Survey, Rains County.

Another test proposed for Leon County is to be drilled by a group of independent operators of Tyler on the Fred Cox 346-acre farm, 7 miles west of Leona, or 9 miles south of Centerville. A block of 6,000 acres has been assembled by F. C. Cooper and transferred to Arthur Squyres.

C. A. Gilliam, Arthur Allen and Virgil Whitworth, all of Fort Worth, have assembled a block of between 8,000 and 10,000 acres, 15 miles northwest of the Van Field in Van Zandt County, and plan to drill a Woodbine sand test. The block centers around the town of Edgewood.

W. D. Ambrose of Fort Worth has filed application for a survey of lakes in the western and southern part of Anderson County, for the purpose of securing mineral leases on the lake areas from the State. He alleged they are unsurveyed lands belonging to the public school fund. They are all near the Long Lake discovery. Eighteen lakes were mentioned in the petition.

Corsicana Area

Coffield & Guthrie, Inc., of Rockdale have purchased 1,250 acres of shallow leases containing more than 100 shallow wells in the long producing Corsicana area, Navarro County. It recently purchased all the shallow producing leases and wells in the area from the Magnolia Petroleum Co., abandoning some wells and salvaging some equipment. It will also abandon some of the old Barnsdall Oil Co. producers and salvage worthwhile equipment. Some of the shallow wells have been producing since 1895.

W. B. Hinton and others abandoned their No. 1 J. Worsham in the Alex O. Wetmore Survey, Hopkins County. Total depth is 3,580 feet. Elevation is 438 feet.

Peden and Olson completed a small Nacatosh sand produced on the W. S. Branson farm in the Mund Gross Survey, north of the Van Field, Van Zandt County. This is their second producer in the shallow area which they opened several months ago with a 20-bbl. producer. This latest well topped the sand at 1,193 feet and was drilled to 1,219 feet, making 18 bbls. of oil per day.

Pure Oil Co. is drilling its first Nacatosh sand test in this area on the Listenbee farm, in the John Goodman Survey, north of Van production. It is standing with surface casing cemented at 73 feet.

EAST TEXAS FIELD

There were 87 locations staked in the East Texas Field during the week and 76 more wells added. There are now over 11,500 producers and pressures have increased to above 1,256 pounds on the average. About 1,000 wells in the north end of Gregg County are being readjusted because of the increase in potentials of wells completed in that area where pressures are the highest for the field.

The average hourly potential per well is 280 bbls., the average per well allowable being about 35 bbls. per day with maximum wells allowed 57.9 bbls. and the minimum 20 bbls. per day.

There were 1,336 marginal wells on November 20, but some which have been pumping or shut down for some time are again flowing due to the readjustment of pressures caused by further curtailment. Pressures on September 25 were 1,244 pounds and on two months prior around 1,200 pounds. On November 20 the field's allowable was 401,480 bbls. per day. The latest distribution report shows a daily average of 434,095 bbls.; 396,442 bbls. by major pipe lines, 37,570 bbls. going to local refineries and but a minute amount going out by tank cars. The daily average deliveries ran 39,830 bbls. per day above reported production.

East Texas producing properties are now in great demand with independent operators and majors. Atlantic Oil Producing Co. has acquired a one-half interest in six separate leases in the Kilgore area, northern Rusk County. Consideration was reported as $235,000 cash, for a half interest in 46½ acres including 10 wells in the I. Ruddle, Henry Hobson and R. E. Winn Surveys.

There are now about 560 wells making, or that have made various percentages of salt water. Combined they are not producing over 8,000 bbls. of water per day. The Kilgore area has the largest number of water wells, with the Henderson area second and the Longview area third. There is a fingering in of salt water on the northwest side at Gladewater where withdrawals have been heavy, at Kilgore and in the London area.

Well Density

Well density has been lowered to one well to slightly less than 10 acres. The steady completion of around 85 wells per week has been cutting down the well density. Most wells being drilled are on inside locations.

Refinery runs this week dropped almost 3,400 bbls. per day under the daily average runs reported the previous week. Two refineries in other districts in the State have requested the Railroad Commission to aid them in obtaining sufficient crude from local fields for operation of their plants. Some refineries in East Texas may invoke this order in an effort to obtain crude. So far no report has been made of any East Texas plants asking for such assistance. There are 21 plants now shut down in the field.

East Central Texas Wildcats

Week Ending November 27

Company, well, farm name, section and block—	Remarks:
ANDERSON COUNTY	
Standard of Kansas' No. 1 A. W. Johnson, 565 ft. from N line and 420 ft. from E and W lines of 22.8-ac. tract, Simon Sanches Sur.	Derrick.
Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 2 Long Lake Plantation, 1,866 ft. due W of Tide Water and Texas Seaboard Oil Co.'s No. 1 Long Lake, Simon Sanches Sur.	Junked hole at 1,690 ft.; skidded derrick 50 ft. E; now spudding at 290 ft. in new hole.
Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 3 Long Lake Plantation, 3,732 ft. S of No. 1 and 2,799 ft. E at right angles, Simon Sanches Sur. No. 1	Moving in material.
ANGELINA COUNTY	
H. C. Jennings et al's No. 3 Colmorgan, 1,320 ft. from N line and 1,800 ft. from E line of 200-ac. tract, J. Messingill Sur.	Drlg. 1,175 ft.
J. M. Seward et al's No. 1 L. J. Dearman, 500 ft. from S and W lines of Dearman S 20-ac. tract, 2½ miles SE of Zavalla, J. T. Peavy Sur.	Drlg. 1,600 ft.
BOWIE COUNTY	
R. W. Lynn and W. R. Rolfe's No. 1 Mrs. R. D. Hart, 330 ft. out of NE cor. of Hart 20-ac. tract, 1 mile E of Nash, Thomas Price Sur.	Location.
CHEROKEE COUNTY	
Cranfill & Reynolds' No. 1 Southern Pine Lbr. Co., 330 ft. out of SE cor. of survey, N. Arrington Sur.	Rig up.
A. F. Richardson's No. 1 P. Wood, 660 ft. from N line and 3,300 ft. from E line of 495-ac. tract, 14 miles E of Jacksonville, on Cherokee-Rusk County line, Ignacia Sanches Sur.	Derrick.

(Continued on Page 46)

COMPLETIONS IN EAST TEXAS

North Gregg County

H. L. Allen's No. 2 M. Bonner, top sand 3,571 feet, initial production 50 bbls. per hour through open tubing, total depth 3,590 feet. Arkansas Fuel Oil Co.'s No. 5-B D. B. McPherson, top sand 3,501 feet, initial production 59 bbls. in one-half hour through open tubing, total depth 3,526 feet. Atlantic Oil Producing Co.'s No. 22-A Burnside, top sand 3,534 feet, initial production 80 bbls. per hour through open tubing, total depth 3,552 feet; No. 25-A Burnside, top sand 3,527 feet, initial production 85 bbls. per hour through open tubing, total depth 3,552 feet; No. 2-A Flemister, top sand 3,569 feet, initial production 85 bbls. per hour through open tubing, total depth 3,639 feet; No. 52 Moore, top sand 3,503 feet, initial production 80 bbls. per hour through open tubing, total depth 3,535 feet.

Bond & Dillard's No. 8 J. C. Barrett, top sand 3,637 feet, initial production 60 bbls. per hour through open tubing, total depth 3,652 feet. East Texas Oil & Refining Co.'s No. 10 A. Christian, top sand 3,650 feet, initial production 33 bbls. in one-half hour through open tubing, total depth 3,682 feet; No. 12 F. White, top sand 3,544 feet, initial production 35 bbls. in 20 minutes through open tubing, total depth 3,588 feet. Empire Gas & Fuel Co.'s No. 14 T. W. Lee, top sand 3,525 feet, initial production 80 bbls. per hour through open tubing, total depth 3,561 feet. F. H. E. Oil Co.'s No. 3 M. Christian, top sand 3,636 feet, initial production 80 bbls. per hour through open tubing, total depth 3,680 feet. Gulf Production Co.'s No. 52 Judge, top sand 3,509 feet, initial production 73 bbls. per hour through open tubing, total depth 3,534 feet. Humble Oil & Refining Co.'s No. 14 T. M. Armstrong, top sand 3,571 feet, initial production 77 bbls. through three-quarters inch tubing choke, total depth 3,604 feet.

Lester & Duffield's No. 8 J. Moore, top sand 3,555 feet, initial production 40 bbls. in one-half hour through 1-inch tubing choke, total depth 3,564 feet Roeser & Pendleton's No. 4 J. T. Hopkins, top sand 3,498 feet, initial production 75 bbls. per hour through open tubing, total depth 3,530 feet. Selby Oil & Gas Co.'s No. 2-A Snavely heirs, top sand 3,578 feet, initial production 56 bbls. in one-half hour through open tubing, total depth 3,593 feet. Sinclair Prairie Oil Co.'s No. 29 Moncrief, top sand 3,566 feet, initial production 25 bbls. in one-quarter hour through open tubing, total depth 3,620 feet; No. 30 Moncrief, top sand 3,537 feet, initial production 25 bbls. in one-quarter hour through open tubing, total depth 3,595 feet.

Stanolind Oil & Gas Co.'s No. 5 M. E. Harley, top sand 3,599 feet, initial production 38 bbls. in 32 minutes through 2-inch tubing, total depth 3,666 feet. Stanolind and Simms Oil companies' No.

SINGLE [DUAL STROKE] CRANK OILBATH GEARED POWERS

HEAT-TREATED GEARS — TIMKEN BEARINGS

NEW! "OILWELL" No. 150-SC

Service Specifications

Rating—150 H.P. at 20 R.P.M. of crank

Crank—Dual Stroke, 30 and 36"

Crank Pin Disc—16-2½" or 20-2" Dia. Clevis Pin Holes, bushed

Height overall—4'7"

IMPERIAL No. 80-SC

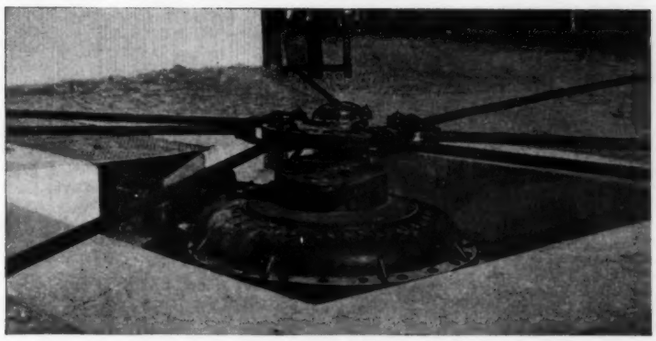
Service Specifications

Rating—80 H.P. at 20 R.P.M. of crank

Crank—Dual Stroke, 30 and 36"

Crank Pin Disc—16-2" Dia. Clevis Holes, bushed.

Height overall—3'8-¼"



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7 Akin, top sand 3,515 feet, initial production 16 bbls. in one-quarter hour through 2-inch tubing choke, total depth 3,609 feet; No. 9 Akin, top sand 3,541 feet, initial production 16 bbls. in one-quarter hour through 2-inch tubing choke, total depth, 3,631 feet. Stanolind Oil & Gas Co.'s No. 8 Fonville, top sand 3,528 feet, initial production 11 bbls. in one-quarter hour through 2-inch tubing choke, total depth 3,560 feet. Sun Oil Co.'s No. 19 J. M. Haynes, top sand 3,614 feet, initial production 75 bbls. per hour through open tubing, total depth 3,668 feet. Telluric Oil Corp.'s No. 1 Adams, top sand 3,668 feet, initial production 80 bbls. per hour through open tubing, total depth 3,674 feet. Texota Oil Corp.'s No. 3 Mollie Fenn, top sand 3,612 feet, initial production 75 bbls. per hour through 1-inch tubing choke, total depth 3,630 feet. Washington Oil Corp.'s No. 5 C. A. Cobb, top sand 3,548 feet, initial production 68 bbls. in 50 minutes through open tubing, total depth 3,597 feet. Yount Lee Oil Co.'s No. 7 Stuckey-Thrasher, top sand 3,558 feet, initial production 62 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,578 feet.

South Gregg County

Skelly Oil Co.'s No. 2 M. T. Cole, top sand 3,538 feet, initial production 100 bbls. per hour through open tubing, total depth 3,543 feet. Continental Oil Co.'s No. 2 A. A. King, top sand 3,651 feet, initial production 21 bbls. in one-quarter hour through 1½-inch tubing choke, total depth 3,665 feet. Elliott and others' No. 2 I. Benson, top sand 3,633 feet, initial production 75 bbls. per hour through open tubing, total depth 3,638 feet. Maurice Stewart's No. 1 E. Smith, top sand 3,624 feet, initial production 75 bbls. per hour through open tubing, total depth 3,636 feet. John Mabee's No. 16 M. T. Cole, top sand 3,520 feet, initial production 100 bbls. per hour through open tubing, total depth 3,555 feet; No. 19 M. T. Cole, top sand 3,540 feet, initial production 100 bbls. per hour through open tubing, total depth 3,555 feet. Rhoads Drilling Co.'s No. 15 Sabine River, top sand 3,512 feet, initial production 50 bbls. in one-half hour through open tubing, total depth 3,537 feet. Salmon Oil Co.'s No. 5 W. Smith, top sand 3,538 feet, initial production 220 bbls. first two hours through open tubing, total depth 3,568 feet.

Sinclair Prairie Oil Co.'s No. 31-A A. A. King, top sand 3,448 feet, initial production 35 bbls. in one-quarter hour through open tubing, total depth 3,500 feet; No. 14-B A. A. King, top sand 3,438 feet, initial production 20 bbls. in one-quarter hour through open tubing, total depth 3,461 feet; No. 15-B A. A. King, top sand 3,439 feet, initial production 20 bbls. in one-quarter hour through open tubing, total depth 3,486 feet. Texas Co.'s No. 24 M. T. Cole, top sand 3,510 feet, initial production 70 bbls. per hour through open tubing, total depth 3,554 feet; No. 14 H. T. Elder, top sand 3,573 feet, initial production 70 bbls. per hour through open tubing, total depth 3,597 feet.

North Rusk County

Houston Oil Co.'s No. 3-A W. P. Brightwell, top sand 3,647 feet, initial production 91 bbls. per hour through open tubing, total depth 3,660 feet. Humble Oil & Refining Co.'s No. 86 L. D. Crim, top sand 3,618 feet, initial production 126 bbls. per hour through open tubing, total depth 3,652 feet; No. 93 L. D. Crim, top sand 3,626 feet, initial production 120 bbls. per hour through open tubing, total depth 3,651 feet; No. 8-B W. P. Moore, top sand 3,679 feet, initial production 94 bbls. per hour through open tubing, total depth 3,699 feet. Shasta Oil Co.'s No. 3 Alexander, top sand 3,641 feet, initial production 15 bbls. in 20 minutes through open tubing, total depth 3,671 feet. Snowden and McSweeney's No. 5 F. Bean, top sand 3,597 feet, initial production 15 bbls. in one-half hour through open tubing, total depth 3,630 feet. Tide Water Oil Co.'s No. 6-A Buntyn, top sand 3,670 feet, initial production 45 bbls. in one-half hour through open tubing, total depth 3,630 feet.

South Rusk County

American Liberty Oil Co.'s No. 5-A J. E. Sheckland, top sand 3,611 feet, initial production 45 bbls. per hour through open tubing, total depth 3,624 feet. F. H. E. Oil Co.'s No. 4-D M. T. Thompson, top sand 3,724 feet, initial production 30 bbls. in one-half hour through open tubing, total depth 3,774 feet. Gulf Production Co.'s No. 7 O. H. Grissom, top sand 3,687 feet, initial production 35 bbls. per hour through three-quarters inch tubing choke, total depth 3,692 feet. Hickman and others' No. 2 M. L. Thompson, top sand 3,668 feet, initial production 75 bbls. per hour through open tubing, total depth 3,707 feet.

Humble Oil & Refining Co.'s No. 8 M. D. Caldwell, top sand 3,656 feet, initial production 75 bbls. per hour through open tubing, total depth 3,682 feet; No. 7-A June Day Florey, top sand 3,710 feet, initial production 70 bbls. through three-quarters inch tubing choke, total depth 3,745 feet; No. 38-A M. and K. Kangerga, top sand 3,627 feet, initial production 75 bbls. per hour through open tubing, total depth 3,660 feet; No. 30-A S. H. Plowman, top sand 3,661 feet, initial production 85 bbls. per hour through open tubing, total depth 3,712 feet; No. 16 C. J. Thompson, top sand 3,685 feet, initial production 88 bbls. per hour through open tubing, total depth 3,719 feet; No. 13 J. E. Wheelis, top sand 3,751 feet, initial production 75 bbls. per hour through open tubing, total depth 3,752 feet; No. 4-A Wilson, top sand 3,753 feet, initial production 86 bbls. per hour through open tubing, total depth 3,792 feet. Hunt Production Co.'s No. 2 W. M. Camp, top sand 3,525 feet, initial production 20 bbls. in 45 minutes pumping, total depth 3,640 feet; No. 14-C R. W. Fair, top sand 3,606 feet, initial production 85 bbls. per hour through open tubing, total depth 3,640 feet; No. 14 C. Young, top sand 3,637 feet, initial production 65 bbls. per hour through open tubing, total depth 3,692 feet.

McMahon and others' No. 5 Joe Lee, top sand 3,665 feet, initial production 50 bbls. per hour through open tubing, total depth 3,673 feet. Merrick Drilling Co.'s No. 4 Neal Cooper, top sand 3,550 feet, initial production 5 bbls. per hour pumping, total depth 3,615 feet. Mid-Kansas Oil & Gas Co.'s No. 15 H. C. and G. W. Burton, top sand 3,687 feet, initial production 86 bbls. per hour through open tubing, total depth 3,718 feet; No. 60 M. M. Cross, top sand 3,606 feet, initial production 64 bbls. per hour through open tubing, total depth 3,617 feet; No. 62 M. M. Cross, top sand 3,616 feet, initial production 148 bbls. per hour through open tubing, total depth 3,626 feet; No. 53 W. T. Grissom, top sand 3,632 feet, initial production 130 bbls. per hour through open tubing, total depth 3,645 feet; No. 21 S. H. Moores, top sand 3,647 feet, initial production 64 bbls. per hour through open tubing, total depth 3,723 feet. Smith & Hazlip's No. 3 M. L. Thompson, top sand 3,663 feet, initial production 15 bbls. in one-quarter hour through open tubing, total depth 3,746 feet. Stanolind and Pure Oil Co.'s No. 21 R. A. Moores, top sand 3,595 feet, initial production 27 bbls. in 25 minutes through open tubing, total depth 3,608 feet. Tide Water Oil Co.'s No. 7 Ras Pool, top sand 3,702 feet, initial production 20 bbls. in one-quarter hour through open tubing, total depth 3,742 feet.

Smith County

R. J. McMurray's No. 3 Robertson, top sand 3,769 feet, initial production 100 bbls. per hour through open tubing, total depth 3,771 feet. Texas Co.'s No. 11 Blackwell, top sand 3,705 feet, initial production 90 bbls. per hour through open tubing, total depth 3,733 feet; No. 9 J. W. Wilson, top sand 3,651 feet, initial production 106 bbls. per hour through open tubing, total depth 3,671 feet.

Upshur County

Humble Oil & Refining Co.'s No. 22 J. K. Edwards, top sand 3,659 feet, initial production 48 bbls. per hour through three-quarters inch tubing choke, total depth 3,680 feet. Sabinas Oil Co.'s No. 4-B J. C. Falvey, top sand 3,729 feet, initial production 85 bbls. per hour through open tubing, total depth 3,749 feet.

WILDCAT COMPLETIONS

Hopkins County

W. B. Hinton's No. 1 J. Worsham (formerly Hagery and Ashby), top of Pecan Gap 1,540 feet, base 1,631 feet, top Austin chalk 2,570 feet, base 2,691 feet, top Woodbine sand 3,060 feet, top red beds 3,117 feet, top of sand 3,465 feet, elevation 438 feet, dry and abandoned, total depth 3,580 feet (Alexander O. Wetmore Survey).

Van Zandt County

Peden and Olson's No. 2 W. S. Branson, top sand 1,193 feet, initial production 18 bbls. flowing by heads per day, total depth 1,219 feet (Mund Gross Survey).

Marketers Unify Sales Practices Under Code

(Continued from Page 27)

services rendered, and the value of such incentives shall not be disproportionate to business gained thereby.

However, "marketers" engaged in the sale of liquefied gas shall not give away any liquefied gas nor make any installation or lease free of charge or at less than posted prices.

This rule shall not prevent (a) the giving of other reasonable prizes at fairs, public demonstrations, and cooking schools; (b) the giving of other reasonable incentive, to induce attendance at such public demonstrations or to obtain names of prospective consumers.

Rule 4. All "marketers" shall post at each point from which they make deliveries, and at places readily accessible to the public, all prices for which liquefied gases are sold at retail. All "marketers" engaged in the retail sale or leasing of bottled gas equipment shall post at each point from which they make deliveries and at places readily accessible to the public, all retail prices for which bottled gas equipment are sold and/or leased. Upon adoption of this code all "marketers" shall submit posted price schedules and any price changes made thereafter in written form to the National Bottled Gas Association, or other association designated by the Emergency National Committee, within 24 hours after such change. Any person shall have access to this information from the "Association" upon written request. All prices shall remain in effect for at least 24 hours after they are posted. Posting shall include the following: (a) The retail prices for all classes, types, methods, and quantities of deliveries of liquefied gas: (b) the prices and/or lease or installation charges for all types and specifications of liquefied-gas equipment for retail use; (c) a schedule of all discounts offered and the terms thereof, and (d) a statement of all terms as to freight rates, deliveries and points of price basis. All retail sale or leased installations shall be made at the posted price or lease charges and no "marketer" shall make any deviation from his posted price by means of rebates, allowances, concessions, benefits, script books, quantity discounts, discounts to buyers of a class or by any plan, device, or scheme, whereby any buyer obtains any liquefied gas or equipment, or lease, or installation at a net cost lower than the posted price.

Rule 5.—No "marketer" engaged directly or indirectly in the liquefied gas industry shall sell any liquefied gas below his prime cost; nor shall sell at retail any bottled gas equipment or appliances for less than his prime cost. Prime cost as used herein is understood to mean invoice figure plus transportation charges from source to storage.

Rule 6.—All utilization equipment requiring portable and/or movable containers shall be approved by and listed with the Underwriters Laboratories, Inc., of National Board of Fire Underwriters and/or affiliates and shall be installed, maintained, and operated in accordance with the rules and recommendations of Underwriters Laboratories, National Board of Fire Underwriters and/or affiliates, as a means of promoting the greatest degree of safety.

No deliveries of liquefied gas . . . shall be made . . . inside buildings, basements, or other dangerous or hazardous locations, excepting only buildings designed and erected specifically and exclusively for housing of such installations.

All deliveries of liquefied gas made to buyers or consumers for domestic use shall be limited to the capacity of the liquefied-gas equipment installed on the premises of said user or buyer.

All tanks, containers, piping, devices and utilization equipment shall be built in accordance with the rules or specifications covering that class promulgated by the National Board of Fire Underwriters, National Fire Protection Association, Associated Factory Mutual Laboratories, and/or affiliates, and shall be installed, maintained, and operated in strict accordance with the rules and recommendations of the National Board of Fire Underwriters, National Fire Protection Association, Associated Factory Mutual Laboratories, and/or affiliates.

Rule 7. "Marketers" engaged in the sale of liquefied gas or sale or lease of liquefied gas equipment being cognizant of the need for safety in equipment and installation, shall not sell, lease or install any reclaimed or second-hand equipment, except where such equipment has been reconditioned so as to be equivalent from a safety standpoint to new equipment of the same type and specification. Such equipment shall not be sold, leased, or installed below the posted price of unused equipment.

Rule 8.—The making or causing or knowingly permitting to be made or published any false, materially inaccurate or deceptive statement by way of advertisement or otherwise, whether concerning the grade, quality, quantity, substance, character, nature, origin, size, finish, or preparation of any product of the industry, or the credit terms, values, policies, or services of any member of the industry, or otherwise, having the tendency or capacity to mislead or deceive customers or prospective customers, or the falsely laying claim to a policy or a continuing practice of generally underselling competitors, is prohibited.

Rule 9.—The provisions of this code shall not apply to transactions between subsidiary or affiliated companies. Companies shall be considered to be affiliated when one owns the majority of the outstanding capital stock of the other and when the majority of the outstanding capital stock of each is held by the same individual, corporation, or association. The parent companies owning the majority of stock in other companies shall be responsible for the observance by such subsidiary or affiliated company of the rules of this code.

Rule 10.—The unauthorized use by any "marketer" of the trade mark, trade slogan, insignia, or emblem of any other "marketer" or of any trade association in the liquefied gas industry, or the assertion of claim, by advertisement or otherwise, by any "marketer" that he is a member of any such association when in fact not a member thereof, is prohibited.

Rule 11. All consuming appliances not manufactured for liquefied gas shall be properly adapted or converted for the safe and efficient use of liquefied gas, and no "marketer" shall render such conversion service, on appliances being connected to a liquefied gas installation made by such "marketer," at prices below cost of labor and material.

Rule 12.—The marketing provisions of this code shall apply to all "marketers" of liquefied gas as hereinbefore defined regardless of any of their trade associations or other industrial affiliations.

Rule 13.—A violation of any of the rules of this code shall constitute an unfair trade practice.

Switch to Conoco Bronze, Mr. Jobber, Before Your Customers Go Elsewhere for It!

If any customer of your own or your dealers' stations has a tough time starting his car one of these cold mornings . . . and then has to hang on to the choke for blocks . . . *look out!* He'll be heading for a Conoco Bronze pump because he knows (Conoco advertising in newspapers everywhere has told him!) he'll get *instant starting* and *lightning pick-up* in any weather with this high-test gasoline.

Don't *lose* customers—*hold* old customers and *gain* new ones with Conoco Bronze High-Test Gasoline. It starts cars at zero or 'way below. It improves pick-up. It is high anti-knock, and it gives long mileage.

Conoco Bronze High-Test Gasoline has built astounding sales increases for Conoco jobbers and dealers. Let us tell you how Conoco Bronze, with Conoco's new merchandising plan behind it, can build sales for you. Wire or write us right now that you want a representative to call on you.

CONTINENTAL OIL COMPANY

CONOCO

NRA

CONOCO BRONZE HIGH TEST GASOLINE

DIVISION OFFICES:

Albuquerque, N. M.
Butte, Montana
Chicago (Conoco Oil Company)
Denver, Colorado
Fort Worth, Texas
Great Falls, Montana
Kansas City, Missouri
Lincoln, Nebraska
New York, New York
Ponca City, Oklahoma
Richmond, Virginia
Salt Lake City, Utah

THE "INSTANT-STARTING, LIGHTNING PICK-UP" GASOLINE

East Central Texas Wildcats

(Continued from Page 42)

ELLIS COUNTY

Beckham et al's No. 1 L. S. R. Wood, 150 ft. from N line and 330 ft. from E line of Wood 186-ac. tract, A. D. Lagarsa Sur. ..... Derrick.

FRANKLIN COUNTY

Van Emon et al's No. 1 O. S. Maxton, 910 varas W and 910 varas S of NE cor. of survey, John Brown Sur. .. Derrick.

FREESTONE COUNTY

Clyde Creighton's No. 1 Holley Bros., 554 ft. from W and center of N and S lines of lease, A.B.&M. Sur. ..... Fishing for drill stem 5,260 ft.

Daniels Oil & Royalty Co.'s No. 1 T. F. Young, 750 varas from W line and 250 varas from S line of survey, L. Liggins Sur. ..... Rig up.

Hughes et al's No. 1 H. A. Shaw, 330 ft. out of NE cor. of H. A. Shaw 138-ac. tract, Simon Sanches Sur. No. 5 ..... Location.

Humble Oil & Refining Co.'s No. 1 Dietz Brothers, 1,000 ft. out of southerly SE cor. of 1,000-ac. tract, Simon Sanches Sur. No. 6 ..... Made 4,955 ft. salt wtr. on drill stem test from 5,277-5,399 ft.; will drill deeper.

GREGG COUNTY

G. T. Bankenship's No. 1 R. B. White, 100 ft. from S line and 100 ft. from W line of survey, M. D. Moore Sur. ..... Swabbing; T.D. 3,540 ft.

Burton et al's No. 1 D. Smith, 500 ft. N and 50 ft. W of NW cor. of J. S. Carrithers Sur. ..... Waiting on cmt. to set; T.D. 3,640 ft.

Elliott et al's No. 1 Benson, 175 ft. from S line and center E and W lines of tract, W. P. Chisum Sur. .... Location.

J. D. Hall et al's No. 1 Mrs. Gladys Utzman, 5,859 ft. from N line and 6,980 ft. from W line of survey, M. V. Winkle Sur. ..... Drlg. 1,485 ft.

Humble Oil & Refining Co.'s No. 1 Rogers Lacy, 2,050 ft. N and 330 ft. E of SW cor. of lease, N. Screws Sur. ..... Drlg. 1,987 ft.

Randall's No. 1 Williams, C of 1-acre tract, State Sur. .. Drlg. 1,800 ft.

HENDERSON COUNTY

Campbell and Champlin's No. 1 R. S. Ansley, 108 varas S and 623 varas W of NE cor. of lease, 6 miles SE of Buffalo, N. H. Thompson Sur. ..... Derrick.

Laco Oil Co.'s No. 1 George Pace, 300 ft. from N line and 400 ft. from W line of survey, 2½ miles NE of Athens, James B. Atwood Sur. ..... Set surface csg.

HUNT COUNTY

Meade and McKennie's No. 1 Love, 300 ft. from N line and 6,390 ft. from W line of 95-ac. tract, John Gilisky Sur. ..... Rig up.

H. O. Shawver et al's No. 1 J. H. Jones, 740 varas S of NE cor. and 75 varas from E line of tract, 6½ miles NE of Greenville, L. Ferguson Sur. ..... Drlg. 1,098 ft.

LEON COUNTY

Cooper et al's No. 1 W. H. Cozart, 1,000 ft. from SE cor. of 266-ac. tract in SW part of county, Thomas Gardner Sur. ..... Derrick.

Shell Petroleum Corp.'s No. 1 Boggs, center of 133.5-ac. tract, John Carter Sur. ..... Coring 5,867 ft.

E. L. Smith's No. 1 W. P. Simpson, 1,320 ft. from S and E lines of survey, Alfred Penn No. 693 Sur. .... Derrick.

Standard Oil of Kansas' No. 1 A. W. Johnson, 466 ft. from NE line and 466 ft. from NW line of 100-ac. tract, Simon Sanches Sur. No. 7 ..... Location.

Sutton and Hawkins' No. 1 F. C. Wilson, 300 ft. out of NW cor. of Wilson 55-ac. tract, A. Ogden Sur. .... Derrick.

LIMESTONE COUNTY

C. M. Joiner et al's No. 1 S. A. Knapp, 1,000 ft. from N and W lines of tract and survey, 1½ miles N of Falls County line, Luke Moore Sur. ..... Spudding 190 ft.

MORRIS COUNTY

Buchanan et al's No. 2 Staggers, 150 ft. from W line and 500 ft. from S line of survey, 8 miles NW of Dangerfield, John D. Nelson Sur. ..... Derrick.

NAVARRO COUNTY

H. T. Braselton et al's No. 1 H. L. Albritton, 150 ft. out of NW cor. of 100-ac. tract, 1½ miles E of Roane ..... Spudding.

Syam Oil Co.'s No. 1 W. B. Coates, 150 ft. out of SE cor. of 59-ac. tract, McKinney & Williams Sur. .... Showed 3,500 ft. of salt wtr. on drill stem test; T.D. 3,995 ft.

RAINS COUNTY

J. W. Hallsell et al's No. 1 P. F. Jones, 400 ft. out of SW cor. of 22-ac. tract, 2½ miles S of Alba, B.B.B.&C. Sur. ..... Derrick.

RUSK COUNTY

East Texas Oil & Refining Co.'s No. 1 W. Starr, 5,560 ft. from N line and 330 ft. from W line of survey, Daniel Clark Sur. ..... Rig up.

Merrick et al's No. 1 D. C. Joiner, 6,500 ft. from N line and 2,780 ft. from W line of survey, F. Cordova Sur. ..... Drlg. 128 ft.

Pansy Oil Co.'s No. 1 W. H. Frederick, 600 ft. from N line and 4,800 ft. from W line of survey, Ximenes Sur. ..... Drlg. 3,325 ft.

Rodgers et al's No. 1 W. B. Perry, 150 ft. from N line and center of E and W lines of lease, W. P. Perry Sur. ..... Waiting on cmt. to set; T.D. 3,727 ft.

SMITH COUNTY

Barney Cockburn's No. 1 J. Jackson and Atterberry, 3,290 ft. from N line and 1,590 ft. from E line of survey, E. Daniels Sur. ..... Waiting on cmt. to set; T.D. 3,836 ft.

UPSHUR COUNTY

Cranfill & Reynolds' No. 1 C. T. Crosby, 660 ft. from S and E lines of 196-ac. tract, 4,000 ft. E of Cranfill & Reynolds' No. 1 Rash, P. L. Clawer Sur. ..... Coring at 3,747 ft.; tested dry on drill stem test from 3,720-47 ft.

C. H. Lyons et al's No. 1 E. H. Crosbie, 330 ft. out of SE cor. of lease and survey, C. Witcher Sur. .... Derrick and rig up.

Manzell et al's No. 1 C. B. Mackey, 2,480 ft. from N line and 2,340 ft. from E line of survey, J. M. Pineda Sur. ..... Rig up.

VAN ZANDT COUNTY

Gray and Williams et al's No. 1 Paschall, 590 ft. from E line and 200 ft. from N line of 39-ac. tract, 5 miles NW of Jackson, D. Y'Barbo Sur. ..... Set surface csg. 88 ft.

J. O. Griffith's No. 1 Bruce & Gibbard, 1,000 ft. from S line and 330 ft. from E line of 134-ac. tract, G. Martinez Sur. ..... Spudding.

Humble Oil & Refining Co.'s No. 1 J. D. Listenbee, 150 ft. out of SW cor. of W 15 acres of 30-ac. tract, John Goodman Sur. ..... Set surface csg.; T.D. 73 ft.

Humble Oil & Refining Co.'s No. 1 S. R. Ray, 200 ft. S and 160 ft. W of J. D. Listenbee 30-ac. lease in Nacogdoches County School Lands Sur. ..... Location.

Pure Oil Co.'s No. 6 A. W. Ellison, 625 ft. N of S line and 200 ft. W of E line of A. W. Ellison 67-acre tract, James Rose Sur. ..... Set surface csg.; T.D. 311 ft.

Ray Drilling Co.'s No. 1 J. W. Mallory, 1,150 ft. from S line and 150 ft. from W line of 217-ac. tract, John Walling Sur. ..... Derrick.

WOOD COUNTY

D. T. Cauble and Thompson's No. 1 N. G. Bobbett, 650 ft. from S line and 330 ft. from W line of tract, 2½ miles NW of Mineola, Daniel Fuller Sur. ..... Fishing for drill stem; T.D. 4,393 ft.

Wildcat Operations in West Texas

(Continued from Page 41)

Harrison et al's No. 3 Addis, 1,650 ft. from N line and 2,200 ft. from W line of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur. ..... Location.

Skelly Oil Co.'s No. 1 Addis, 990 ft. from N line and 2,200 ft. from E line of Sec. 35, Blk. 43, Twp. 2s, T.&P.R.R. Sur. ..... Drlg. 2,675 ft.

Fred Turner's No. 1-B F. V. Addis, 440 ft. from the E line and 330 ft. from S line of Sec. 35, T.&P.R.R. Sur., Blk. 43, Twp. 2s ..... Set csg. 3,642 ft.

FISHER COUNTY

Condor Pet. Co.'s No. 1 Holley, 1,170 ft. W and 660 ft. from N lines of E half, Sec. 6, Blk. R, W. E. Richardson Sur. ..... Moving in material and S.D.

Cranfill & Reynold's No. 3 W. M. Flannigan, 165 ft. S of N line and 330 ft. W of E line of W half Sec. 200, Blk. 1, B.B.B.&C.Ry. Sur. ..... T.D. 3,107 ft.; treated with 1,000 gals. of acid; now testing.

Cranfill & Reynold' No. 3 T. Willingham, Sec. 199, Blk. 1, B.B.B.&C.Ry. Sur. ..... T.L. 3,105 ft.; swabbed 76 bbls. of oil in 2 hrs. after acid treatment; T.D. 3,130 ft.

Merry Bros. and Perini's No. 1 J. J. Steele, 330 ft. E and 150 ft. N of SW cor. NE Sec. 210, B.B.B.&C. R.R. Sur. ..... Drlg. 700 ft.

Mid-Continent Petroleum Corp.'s No. 2 Pardue, 672 ft. from N and 330 ft. from E line of Sec. 202, B.B.B. &C. Sur., Blk. 1 ..... Drlg. 810 ft.

Roeser and Hill's No. 1 Hill, 661 ft. from N and 330 ft. from E line of NW of Sec. 193, B.B.B.&C. Sur., Blk. 1 ..... Drlg. 1,035 ft.

Southern's No. 1 King, 660 ft. from N and 330 ft. from W line of SW Sec. 193, B.B.B.&C. Sur. ..... T.D. 1,107 ft.; trying to shut off water.

Southern Oil Co.'s No. 1-A Pardue, 2,310 ft. from S and 990 ft. from E lines of Sec. 202, B.B.B.&C. Sur. ..... T.D. 2,722 ft.; drlg. by tools.

Texas Co.'s No. 3 T. A. Jean, 165 ft. N of S line and 330 ft. E of W line of E half Sec. 201, Blk. 1, B.B.B.&C.Ry. Sur. ..... T.D. 3,108 ft.; to treat with acid; elev. 1,791 ft.

Texas-Inland Oil Co.'s No. 1 First National Bank of Hamlin, 590 ft. N and 330 ft. W of SE cor. of W half NE Sec. 191, B.B.B.&C.R.R. Sur. ..... S.D. for csg. 1,195 ft.

GAINES COUNTY

R. H. Gill et al's No. 1 Crews, 1,320 ft. from S and 1,320 ft. from W line of Sec. 9, Blk. A-20, P.S.L. Sur.. Derrick up.

GLASSCOCK COUNTY

Continental Oil Co.'s No. 1 Gilbreath, 330 ft. from N line and 1,980 ft. from E line of Sec. 24, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Location.

Heyer-Zuzack's No. 1 Oxsheer, 1,650 ft. from N line and 1,650 ft. from W line of Sec. 8, Blk. 34, Twp. 2s, T.&P. Sur. ..... S.D. 385 ft.

Humble Oil & Ref. Co.'s No. 3 Arrington, 330 ft. from N line and 330 ft. from E line of Sec. 21, Blk. 33, Twp. 2s, T.&P. Sur. ..... Drlg. 1,803 ft.

Noble Drlg. Co.'s No. 2 Baker, 330 ft. from N line and 330 ft. from E line of Sec. 22, Blk. 33, Twp. 2s, T.&P. Sur. ..... Drlg. 700 ft.

Simms Oil Co.'s No. 3-A Coffee, 330 ft. from S line and 1,650 ft. from W line of Sec. 15, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Location.

Tribal Oil Co.'s No. 5-B Edwards, 330 ft. from S line and 330 ft. from E line of Sec. 6, Blk. 33, Twp. 2s, T.&P. Sur. ..... Treating with acid; T.D. 2,160 ft.

HOWARD COUNTY

Group No. 1 Oil Co. and Continental Oil Co., 2,640 ft. from N line and 1,980 ft. from E line of Sec. 5, T.&P.R.R. Sur., Blk. 33 ..... Rigging up to drill in; T.D. 2,360 ft.

L. C. Harrison et al's No. 2 Texas Land & Mortgage Co., 2,310 ft. from E line and 330 ft. from the S line of Sec. 4, T.&P.R.R. Sur., Blk. 30, Twp. 1s ..... Location.

Merrick & Lamb's No. 9 Chalk, 330 ft. from E line and 330 ft. from S line of lease, Sec. 125, Blk. 29, W.&N.W. Sur. ..... Location.

Plymouth Oil Co.'s No. 9 Kloh et al, 2,640 ft. from the N. line and 1,980 ft. from W line of Sec. 5, Blk. 32, T.&P.R.R. Sur., Twp. 2s ..... Underreaming at 1,615 ft.

Schermerhorn Oil Co.'s No. 1 Kloh, Sec. 3, Blk. 32, Twp. 2s, T.&P. Sur. ..... To test; T.D. 2,340 ft.

Joe Rusk et al's No. 2 G. M. Dodge Estate, 330 ft. from N line and 2,310 ft. from the E line of Sec. 9, H.&T.C.R.R. Sur., Blk. 30, Twp. 2s ..... Moving in machine.

Sinclair Prairie Oil Co.'s No. 9 Dodge, 310 ft. from N line and 1,635 ft. from W line of Sec. 11, Blk. 30, Twp. 1s, T.&P.R.R. Sur. ..... Drlg. 1,840 ft.

Southern Oil Co.'s No. 1 Denman, 2,310 ft. from N line and 330 ft. from W line of Sec. 10, Blk. 30, Twp. 1s, T.&P.R.R. Sur. ..... Drlg. 430 ft.

Ungren & Frazier's No. 1 Davis, 330 ft. from S line and 990 ft. from W line of Sec. 2, Blk. 30, Twp. 1s, T.&P. Sur. ..... Drlg. 1,705 ft.

IRION COUNTY

Williams-Short's No. 1 Gentry, 2,200 ft. from N line and 2,080 ft. from W line of Sec. 1, Blk. 3, H.&T.C. Sur... Drlg. 115 ft.

JONES COUNTY

Dyer's No. 1 Odom, 200 ft. from S and 170 ft. from W of N 320 acres, G. Zumwalt Sur. ..... Drlg. 2,320 ft.

Jack Roberts' No. 2 Swann, 2,300 ft. from N and 1,600 ft. W of SE cor. of I. Milley Sur. ..... Rigging up machine.

Roeser & Pendleton's No. 1 W. H. Evans, 300 ft. N and 2,300 ft. E of SW cor. of E 101 acres of N 202 acres of Sec. 4, Blk. 15, T.&P.R.R. Sur. ..... S.D. 2,100 ft.

LOVING COUNTY

R. L. Allen's No. 1 fee, 4,290 ft. from NE line, 330 ft. from SE line, Sec. 82, H.&T.C. Sur. ..... Location.

R. L. Allen's No. 2 fee, 4,290 ft. from NE line, 990 ft. from SE line, Sec. 82, Blk. 33, H.&T.C. Sur. .... Location.

R. L. Allen's No. 3 fee, 4,290 ft. from NE line, 990 ft. from NW line, Sec. 82, Blk. 33, H.&T.C. Sur. .... Location.

R. L. Allen's No. 4 fee, 4,290 ft. from NE line, 330 ft. from NW line, Sec. 82, Blk. 33, H.&T.C. Sur. ..... Location.

Eppenauer Drlg. Co.'s No. 1-C Allen, 330 ft. from NW line, 2,310 ft. from SW line, Sec. 90, Blk. 1, W.& NW Sur. ..... T.D. 920 ft. (no report).

Eppenauer Drlg. Co.'s No. 1-A Victor, 330 ft. from SW and 330 ft. from SE of NW of N half Sec. 4, Blk. 2, W.&N.W. Sur. ..... Rigging up standard tools.

Sinclair Prairie Oil Co.'s No. 1 Allen, 330 ft. from SE lines and 990 ft. from SW lines of Sec. 4, Blk. 2, W.&N.W. Sur. ..... Location.

PECOS COUNTY

Mac T. Anderson's No. 1 E. M. Roots Estate, 2,500 ft. from the N line and 330 ft. from W line of Sec. 11, G.C.&S.F.R.R. Sur., Blk. 113 ..... Drlg. 960 ft.

M. B. Black et al's No. 1 E. E. Powell et al, 150 ft. from NE line and 150 ft. from SE line of Sec. 102, H.&G.M.R.R. Sur., Blk. 10 ..... Drlg. 655 ft.

California Oil Co.'s No. 1 Reid, 1,087 ft. S and 498 ft. W from the NW cor. of Sec. 61, Blk. 1, I.&G.N. Sur. ..... Location.

California Oil Co.'s No. 23 Yates, 315 ft. W of No. 1 Reid, Sec. 34, Blk. 194, G.C.&S.F. Sur. ..... Location.

Culberson Bros.'s No. 15-B Monroe, 725 ft. from N line and 1,350 ft. from E line of Sec. 39, Blk. 194, G.C.&S.F.R.R. Sur. ..... Location.

Easter & McCurdy's No. 3-A Shell-Smith, 875 ft. N of Shell Pet. Corp.'s No. 7-A Smith, Sec. 27, Blk. 194, G.C.&S.F. Sur. ..... Drlg. 225 ft.
Humble Oil & Refining Co.'s No. 1 White, Baker, 1,320 ft. from N and E lines of Sec. 44, Blk. Z, T.C. Sur. ... Drlg. 5,930 ft.
Kemper & Kimberlin et al's No. 2 D. B. Gregg et al, 2,490 ft. from NW line and 1,470 ft. from NE line of Sec. 101, H.&G.M.R.R. Co. Sur., Blk. 10 ..... Spudding.
Mid-Kansas Oil & Gas Co.'s No. 10 Smith, 150 ft. from N line and 250 ft. from E line of Sec. 31, Blk. 194, G.C.&S.F. Sur. ..... Location.
Mid-Kansas O. & G. Co.'s No. 18 Smith-Taylor, 1,296 ft. from S line, 1,390 ft. from W line, Sec. 33, G. C.&S.F. Sur., Blk. 194 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 21 Smith-Taylor, 1,700 ft. from S line and 275 ft. W of northerly NW cor. of Fred Turner, Jr., Sur., but located in Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Drill pipe stuck 1,394 ft.
Mid-Kansas Oil & Gas Co.'s No. 22 Smith-Taylor, 350 ft. from S line and 324 ft. from W line of NW cor. of Fred Turner, Jr., Sur. No. 2, but located in Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Fishing 1,374 ft.
Mid-Kansas Oil & Gas Co.'s No. 24 Smith-Taylor, 250 ft. W of S half of Turner Tract No. 1, Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 25 Smith-Taylor, 344 ft. W of SE cor. of S half of Turner Tract No. 1, Sec. 33 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 26 Smith-Taylor, 395 ft. S and 344 ft. E of SE cor. of S half of Tract No. 1 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 1 Turner, 1,212 ft. from N line and 250 ft. from W line of Turner Sur. No. 2.. Location.
Mid-Kansas Oil & Gas Co.'s No. 1 Turner, 250 ft. from N line and 250 ft. from W line of Turner Sur. No. 3.. Location.
Mid-Kansas Oil & Gas Co.'s No. 3 Turner, 739 ft. from N and 209 ft. from W line of Turner Sur. No. 4 .... Location.
Mid-Kansas Oil & Gas Co.'s No. 3 Fred Turner, 535 ft. from S line and 500 ft. from W line of Tract No. 2.. Bldg. road.
Mid-Kansas Oil & Gas Co.'s No. 6 Fred Turner, 250 ft. from W line and 625 ft. from S line of Tract No. 1.. Location.
Mid-Kansas Oil & Gas Co.'s No. 7 Turner, 395 ft. from S line and 344 ft. from E line of Tract No. 1 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 11-H Yates, 481 ft. from N line and 250 ft. from E line of Sec. 32, Blk. 194, G.C.&S.F. Sur. ..... Drlg. 360 ft.
Mid-Kansas Oil & Gas Co.'s No. 12-H Yates, 408 ft. S of N line of Sec. 32 and 344 ft. W of SE cor. of S half of Tract No. 1 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 13-H Yates, 408 ft. S of N line of Sec. 32 and 344 ft. E of SE cor. of S half of Tract No. 1 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 26-A Yates, 250 ft. N and 324 ft. W from the NW cor. of Turner Tract No. 2 in Sec. 34½, I.G. Yates Sur. ..... Clearing location.
Mid-Kansas Oil & Gas Co.'s No. 37-A Yates, 250 ft. N and 321 ft. E of NW cor. of the Turner Tract No. 3 in Sec. 34½, I. G. Yates Sur. ..... Drlg. 375 ft.
Mid-Kansas Oil & Gas Co.'s No. 38-A Yates, 250 ft. E and 205 ft. S from the NE cor. of Turner Tract No. 3 in Sec. 34½, I. G. Yates Sur. ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 39-A Yates, 150 ft. N and 250 ft. W of the NW cor. of Turner Tract No. 4 in Sec. 34½, I. G. Yates Sur. ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 40-A Yates, 344 ft. from E line and 395 ft. from N of SE cor. of S half of Turner Tract No. 1 ..... Cellar.
Mid-Kansas Oil & Gas Co.'s No. 35-A, 250 ft. from N line and 324 ft. from E line of NW cor. of Fred Turner, Jr., Sur. No. 2, but located in I. G. Yates Sur., A-8195. ..... Csg. 1,328 ft.; flowed 1,376 bbls. in 24 hrs.
Sproles & O'Neal's (rec.) No. 2-A Fred Turner, Jr., 196 ft. from N line, 300 ft. from W line of Fred Turner, Jr., Sur. No. 1 ..... Location.
Sproles & O'Neal's (rec.) No. 4-A Fred Turner, Jr., 1,640 ft. from N line, 250 ft. from W line of Fred Turner, Jr., Sur. No. 1 ..... Fishing 1,325 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 5-C University ..... Drill pipe stuck 8,383 ft.
Big Lake Oil Co.'s No. 12-C University, 928 ft. from N, 740 ft. from E line of Sec. 12, Blk. 2, University land ..... Cleaning out cavings; T.D. 8,677 ft.
Big Lake Oil Co.'s No. 14-C University, 735 ft. from S line and 2,730 ft. from E line of Sec. 25, Blk. 9, University Land Sur. ..... Reaming; T.D. 2,900 ft.
Big Lake Oil Co.'s No. 15-C University, 660 ft. from E line and 660 ft. from S line of Sec. 25, Blk. 9, University Land Sur. ..... Rig up.
Continental Oil Co.'s No. 9-B University, 1,900 ft. from S line, 1,895 ft. W of E line of Sec. 39, Blk. 9, University Land Sur. ..... Plugged back to 8,700 ft.; prepare to test; T.D. 8,850 ft.
Group Oil Co.'s No. 10-B University, 1,900 ft. from N and 1,805 ft. from E line, Sec. 36, Blk. 9 ..... Cellar.

RUNNELS COUNTY

Agnew et al's No. 1 H. B. Fowler, 150 ft. S and W of NE cor. of Sec. 23, N. Travis Sur. No. 533 ..... Drlg. 2,245 ft.
Golden Pet. Co.'s No. 2 McMillan, Subdv. 22, N. Travis Sur. ..... Underreaming pipe; T.D. 1,834 ft.
B. C. Mann et al's No. 1 H. E. Wade, 150 ft. from S and 1,650 ft. from W line, Subdv. No. 8, Norvel Travis Sur. No. 533 ..... Drlg. 2,325 ft.
Mann et al's No. 1 Wade, 330 ft. from N and 330 ft. from E of NW cor. of E 75 acres of S 305.6 acres, Blk. 10, N. Travis Sur. ..... Drlg. 2,132 ft.
Dick Thomas' No. 1 Wade, 2,625 ft. from N and 2,034 ft. W of SE cor. of Lot 10, N. Travis Sur. ..... Spudded.

UPTON COUNTY

Gulf Prod. Co.'s No. 103 McElroy, 1,980 ft. from S and 660 ft. from W, Sec. 197, Blk. F, C.C.S.D.&R.G.N.G.... Drlg. 8,000 ft.; slight show of oil from 7,882-99 ft.

WARD COUNTY

Abell Brothers' No. 1 Archenhold et al, 2,310 ft. from NE line and 330 ft. from SE line of Sec. 28, H.&T.C. Sur., Blk. 5 ..... Drlg. 2,695 ft.
Atlantic Oil & Prod. Co.'s No. 2 Blank-Camp, 2,310 ft. from NW line and 2,310 ft. from SW line of Sec. 14, Blk. 34, H.&T.C. Sur. ..... Drlg. 1,813 ft.
Atlantic Oil & Prod. Co.'s No. 9 Johnson, 330 ft. from NE line and 990 ft. from NW line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... T.D. 1,491 ft.
Atlantic Oil & Prod. Co.'s No. 10 Johnson, 990 ft. from NE line and 330 ft. from NW line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Location.
Atlantic Oil & Prod. Co.'s No. 11 Johnson, 2,310 ft. from NE line and 1,650 ft. from SE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Cmtd. csg.; T.D. 2,275 ft.
Atlantic Oil & Prod. Co.'s No. 12 Johnson, 990 ft. from SE line and 990 ft. from NE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Location.
Atlantic Oil & Prod. Co.'s No. 13 Johnson, 330 ft. from NE line and 330 ft. from SE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Location.
Atlantic Oil & Prod. Co.'s No. 14 Johnson, 330 ft. from NE line and 2,310 ft. from NW line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Fishing 1,796 ft.
Atlantic Oil & Prod. Co.'s No. 15 Johnson, 330 ft. from SE line and 1,650 ft. from NE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Location.
George Bentley et al's No. 1 C. Bergman, 330 ft. from NE line and 2,310 ft. from NW lines of Sec. 26, Blk. 5, H.&T.C. Sur. ..... S.D. 2,647 ft.
George Bentley et al's No. 1 A. Emory, 1,830 ft. from NE line and 2,310 ft. from NW line of Sec. 26, Blk. 5, H.&T.C. Sur. ..... T.D. 2,301 ft.
California Oil Co.'s No. 1 Durgin, 990 ft. from SE line and 330 ft. from SW line of Sec. 15, Blk. 34, H.&T.C. Sur. ..... Drlg. 970 ft.
California Oil Co.'s No. 1 J. F. York, 330 ft. from NW line and 330 ft. from SW line of Sec. 16, Blk. 34, H.&T.C. Sur. ..... Washing hole 2,525 ft.
California Oil Co.'s No. 2 J. F. York, 2,982 ft. from SW and 1,650 ft. from NW cor. of Sec. 10, Blk. 34, H.&T.C. Sur. ..... Digging cellar.
Eastland Oil Co.'s No. 2 Johnson, 1,980 ft. from SE line and 1,980 ft. from SW line of Sec. 24, Blk. 34, H.&T.C. Sur. ..... Trying to kill gas; T.D. 2,420 ft.
Gulf Prod. Co.'s No. 23 Hutchings, 990 ft. from N line and 330 ft. from W line of Sec. 4, Blk. F, G.&M.M. B.&A. Sur. ..... Drlg. 135 ft.
Gulf Prod. Co.'s No. 24 Hutchings, 1,549 ft. from N line and 440 ft. from W line of Sec. 7, Blk. O, G.&M.M. B.&A. Sur. ..... Drlg. 410 ft.
Gulf Prod. Co.'s No. 27 O'Brien, 990 ft. from N line and 330 ft. from E line of Sec. 17, Blk. F, G.&M.M.B.&A. Sur. ..... Swabbing and bailing; T.D. 3,570 ft.
Gulf Prod. Co.'s No. 36 O'Brien, 330 ft. from N line and 330 ft. from E line of Sec. 17, Blk. F, G.&.MM. B.&A. Sur. ..... T.D. 2,750 ft.; flowed 260 bbls. of oil in 8 hrs.; T.D. 2,750 ft.
Gulf Prod. Co.'s No. 38 O'Brien, 990 ft. from S line and 990 ft. from E line of Sec. 16, Blk. F, G.&M.M. B.&A. Sur. ..... Drlg. 1,675 ft.
Gulf Prod. Co.'s No. 39 O'Brien, 990 ft. from N line and 990 ft. from E line of Sec. 17, Blk. F, G.&M.M. B.&A. Sur. ..... Bldg. rig.
Gulf Prod. Co.'s No. 40 O'Brien, 1,650 ft. from N line and 330 ft. from E line of Sec. 17, Blk. F, G.&M.M. B.&A. Sur. ..... Moving in material.
Humble Oil & Ref. Co.'s No. 1 University, 990 ft. from N line and 440 ft. from E line of Sec. 2, Blk. 16, University Sur. ..... Drlg. 725 ft.
Rector-Plains' No. 1 Lee Monroe, 1,320 ft. from SW and 330 ft. from SE Sec. 12, J. N. Rose Sur. ..... S.D. 4,661 ft.
Simms Oil Co.'s No. 1 Massey, 2,310 ft. from SW line and 2,310 ft. from SE line of Sec. 14, Blk. 34, H.&T.C. Sur. ..... Rigging up rotary.
Sinclair Prairie Oil Co.'s No. 3 H. Archenhold, 330 ft. from NE lines and 330 ft. from SE lines of SW of Sec. 23, H.&T.C. Sur., Blk. 5 ..... Drlg. 2,460 ft.
Sinclair Prairie Oil Co.'s No. 4 Archenhold, 2,310 ft. from NW line and 2,310 ft. from SW line of Sec. 23, Blk. 5, H.&T.C. Sur. ..... Drlg. 100 ft.
W. B. Smith's No. 1 Wallis, 3,636 ft. from NE line and 157 ft. from SE line of Sec. 19, Blk. 34, H.&T.C. Sur... Location.
S. A. Thompson's No. 1 Johnson, 1,650 ft. from SW line and 2,310 ft. from SE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Rigging up rotary.

WINKLER COUNTY

Magnolia Pet. Co.'s No. 1 Scarborough, 1,650 ft. from N line and 330 ft. from W line of Sec. 1, Blk. 77, P.S.L. Sur. ..... Rigging up standard tools.
Sinclair Prairie Oil Co.'s No. 2 W. F. Scarborough, 1,650 ft. from E line and 1,990 ft. from N line of Sec. 1, Blk. 17, P.S.L. Sur. ..... S.D. 1,160 ft.

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McPherson County Pools Have Increased Their Potential 11,000 Bbls. Daily in Two Months

By JAMES McINTYRE

According to reports to the Kansas state oil umpire, the potential production of the McPherson County pools has grown 11,000 bbls. per day since September 8. Production in the State in the past week was again shaved down to a point where it may be said to balance with demand, as demand is defined by the Federal Government.

One of the interesting events of the past week in Kansas was a showing of oil and gas in the Atlantic Oil Producing Co.'s No. 1 Bradbridge, C SE NW Section 1-24-16w, in Edwards County, western Kansas, miles from the nearest commercial production. This test found Silicious lime at 4,096-4,110 feet with 6,000,000 feet of gas. There was a showing of oil in the Wilcox sand topped at 4,070 feet.

It is reported from Butler County that acid treatment of old lime wells in that county is giving results in increased production. It has been used with success in the Potwin, Whitewater and Douglas districts.

Production of Pools

Following is the estimated daily production of some of the more prominent pools and fields in Kansas in the week ending November 25 and the previous week:

Pool or field—	Nov. 25	Nov. 18
Hollow	7,685	9,490
Ritz-Canton	15,765	19,290
Voshell	5,835	7,165
Sedgwick County	9,360	9,455
Nikkell	2,600	4,165
Ellsworth County	5,353	4,763
Rice County	8,341	7,664
Barton County	472	440
Reno County	1,550	1,439
Ellis County	383	514
Kingman County	401	727
Stafford County	2,189	.....
Russell County	4,690	5,095
Greenwood County	11,000	11,000
Butler County	17,250	18,000
Other pools	23,446	24,238
Total	116,320	123,355

Sedgwick County

Plains Petroleum Co.'s test on Southwestern College land, NE SE SW Section 2-27-1w, Wichita district, Sedgwick County, was abandoned as a failure at 3,411 feet. It had a showing of gas at 490-95 feet, a hole full of water at 1,255 feet. Eight-inch pipe was set at 3,065 feet, the top of the chat at 3,065 feet; showing of oil at 3,074-79 feet; showing of gas and water at 3,080-95 feet; base of the lime at 3,318 feet; Viola at 3,410-11 feet with a hole full of water, and a small showing of oil.

Shawver and the Texas Co. have material on the ground for No. 1-A Robbins, NE SW SW Section 21-28-1e. Cameron and others' No. 1-A Funk, SW SE NW Section 11-26-1e, spudded in and shut down.

Harvey County

Shell Petroleum Corp.'s No. 4 Schmidt, SW cor. Section 17-22-3w, Hollow Pool, swabbed 86 bbls. in four hours from Hunton lime at 3,460-75 feet, but will drill deeper.

Mid-Kansas Oil & Gas Co. completed No. 2 Duerkson, SW SE NE Section 19-22-3w. It pumped 1,304 bbls. in 24 hours from Hunton lime at 3,450-61 feet, which had been acidized.

Magnolia Petroleum Co.'s No. 3 Schmidt, NW NE Section 30-22-3w, was completed. It pumped 840 bbls. in 24 hours from Hunton lime at 3,333-58 feet.

Mid-Kansas Oil & Gas Co.'s No. 1 Klassen, NE cor. NW Section 30-22-3w, had Wilcox sand at 3,485-3,505 feet and swabbed 112 bbls. in four hours. It was drilling at 3,514 feet.

Manning, Terry and others' No. 1 Dick, SE cor. SW Section 36-22-4w, was drilling at 581 feet. Magnolia Petroleum Co.'s No. 4 Schmidt, SW NW NE Section 30-22-3w, set 15-inch pipe at 451 feet. Mid-Kansas Oil & Gas Co.'s No. 2 Klassen, SE NE NW Section 30-22-3w, is a rig. Study, Frost and others' No. 3 Haury, NE cor. NW Section 1-23-4w, Reno County, is a rig. The Texas Co.'s No. 1 Stucky, C NW NW Section 36-23-4w, had material moved in.

Reno County

The Regina Oil & Gas Co.'s No. 1 Wilson, NW cor. NE Section 26-25-5w, eastern Reno County, was abandoned after the hole filled with water from Siliceous lime at 4,160-78 feet.

Greenwood-Woodson Counties

Lewis Brothers have resumed work on their wildcat test, No. 1 Riggs, SW cor. Section 10-26-14e, Woodson County, and have set casing at 700 feet.

Wolf Creek Oil Co. and others' No. 2 Kaub, CNL SE NE Section 15-25-13, Greenwood County, was shot in sand at 1,524-67 feet. The well made 80 bbls. in 10 hours on the swab.

Skelly Oil Co.'s No. 25 Wick, NE SW SW Section 27-22-11, was shot in sand at 1,900-20 feet and the well made 41 bbls. on the swab in 24 hours.

Barton County

In the Scheuffler Pool, Barton County, Stanolind Oil & Gas Co.'s No. 2 L. Hauser, C NE NW Section 16-20-11w, was completed. It pumped 334 bbls. in 24 hours from Siliceous lime at 3,280-96 feet.

Rice County

Gypsy Oil Co.'s No. 1 Malone, SW SE NW Section 18-20-9w, Sharp Pool, Rice County, was completed. It had Siliceous lime at 3,305-15 feet. It pumped 1,506 bbls. in 24 hours.

Slick, Pryor & Lockhart, Inc., completed No. 2 Herzog, NW NE NW Section 27-18-10w, which had pay at 3,213-19 feet. The well pumped 554 bbls. in 24 hours.

Ramsey and others' No. 1 Lansjng, SE cor. NE Section 31-19-9w, Chase townsite, Rice County, found Siliceous lime at 3,222-28 feet and swabbed 11 bbls. per hour. It was shut in for a potential test.

Gypsy Oil Co. completed No. 1 Lisk, NW NE SW Section 32-19-9w, in Siliceous lime at 3,237-71 feet. It was put on the pump and made 247 bbls. of oil and 153 bbls. of water in 24 hours.

Langston and others have started drilling No. 1 Markle, NE cor. SW Section 1-20-9w. Lario Oil & Gas Co. and others' No. 1 McFarland, SE NE SW Section 7-20-9w, was spudding. Verne Simmons and others' No. 1 Hunter, NE cor. Section 35-19-7w, a wildcat test, was rigging up standard tools.

The Eldorado Refining Co.'s No. 1 Wernet, SW cor. NE Section 12-20-6w, a wildcat in Rice County, was underreaming casing at 2,353 feet. It has had salt water at 1,570-82 feet and a hole full of water at 2,204-12 feet.

McPherson County

Slick, Pryor & Lockhart's No. 3 Stucky, CWL SW Section 27-20-3w, Nikkell Pool, McPherson County, shot Wilcox sand at 3,395-3,413 feet and the well made 357 bbls. in 11 hours on the swab. It has not taken a potential test.

Sinclair Prairie Oil Co.'s No. 6 McCurdy, SE NE SE Section 33-20-3w, had 700 feet of oil in the hole from Viola lime at 3,279-3,320 feet and the crew was preparing to test.

Marileen Oil & Gas Co. completed No. 4 Munn, SW SE SW Section 6-20-1w. It pumped 135 bbls. of oil and about 35 bbls. of water in 24 hours from pay at 2,979-80 feet.

Helmerich & Payne and Shell Petroleum Corp.'s No. 1 Russell, C NW NE Section 23-19-2w, an old well deepened from 2,952 feet to Viola lime at 3,364-67 feet, was acidized and swabbed about 300 bbls. in 24 hours. It was held for a potential test.

Youker and others completed No. 4 Grattan, NW cor. SW Section 24-19-2w, which had been deepened from 3,002 feet to Viola lime at 3,395-3,433 feet. It pumped 632 bbls. in 24 hours.

Vernon Oil & Gas Co. and Shell Petroleum Corp.'s No. 2 Drumm, NW NE Section 35-19-2w, deepened from 2,958 feet to Viola lime at 3,363-74 feet, was treated with acid and pumped 205 bbls. of oil in 24 hours. It was completed.

Lario Oil & Gas Co. and Shell Petroleum Corp.'s No. 3 Lagree, SE SW NW Section 31-19-1w, pumped 275 bbls. in 24 hours from Viola lime at 3,386-3,412 feet, and was held for potential.

Spencer and Shell Petroleum Corp. were moving in material for No. 3 Neufeldt-A, NE SW SE Section 16-21-3w. Mabee and Shell Petroleum Corp. have made location for No. 5 Friesen, NE SW SE Section 33-21-3w. Mabee and Shell Petroleum Corp. were rigging up No 4 Nikkell-B, SE NW SE Section 33-21-3w. Mid-Kansas Oil & Gas Co. has made location for No. 4 Schmidt, SE NE NW Section 33-21-3w. McBride, Inc., has rig up for No. 3 Koehn, NE cor. NW Section 33-21-3w. Whan and others' No. 1 Dixon, NW cor. SW Section 7-19-2w, was rigging up to drill deeper from 3,059 feet. Helmerich & Payne and Shell Petroleum Corp. have a rig up for No. 2 Russell, NE cor. Section 23-19-2w. Phillips Petroleum Co. was rigging up rotary for No. 3 Wiles, NE cor. Section 25-19-2w. Dickey Petroleum Co. and others were rigging up to drill deeper from 2,948 feet in No. 3 Decker-B, NW SE Section 35-19-2w. Darby Petroleum Corp.'s No. 2 Doan, SW cor. NW Section 28-19-1w, was being rigged up.

Among the Wildcats

Cameron and others have spudded in and shut down No. 1-A Funk, SW SE

(Continued on Page 51)

Wildcat Operations in Kansas

Week Ending November 25
(Descriptions are East unless marked otherwise)

Company, farm and location—	Remarks:
BARTON COUNTY	
Atlantic Oil Prod. Co.'s No. 1 Schneider, C NE SW Sec. 15-20-13w	T.D. 2,948 ft.; fishing.
Gypsy Oil Co.'s No. 1 Soderstrom, SE NE NW Sec. 21-17-13w	Drlg. 1,500 ft.
Helmerich & Payne's No. 1 Everleigh, C SW SE Sec. 13-18-13w	S.D. 2,905 ft.
Skelton et al's No. 1 Ott, C SE SE Sec. 16-19-14w	O.W.D.D.; T.D. 3,706 ft.; bailing.
Sinclair Prairie Oil Co.'s No. 1 Redetzke, NE SE Sec. 9-16-11w	Drlg. 2,135 ft.
BUTLER COUNTY	
Darby Pet. Co. and Lauck's No. 1 Lauck, SE SW SE Sec. 17-27-3	Rig.
COWLEY COUNTY	
Yarnell et al's No. 1-A Speer, SE NE NE Sec. 31-33-6e	U.R. 6-in. csg.; T.D. 2,210 ft.
Van Meter et al's No. 1 Moore, NE cor. Sec. 5-35-4	Rig.
EDWARDS COUNTY	
Atlantic Oil Prod. Co.'s No. 1 Bradbridge, C SE NW Sec. 1-24-16w	T.D. 4,096 ft.; running 5-in. liner.
FINNEY COUNTY	
National Ref. Co. et al's No. 1 Smith, C SE SW Sec. 2-23-29w	Drlg. 3,130 ft.
HARVEY COUNTY	
Holbart Oil Co.'s No. 1 Harder, SE SW SE Sec. 11-23-1e	Drlg. 3,421 ft.
Holbart Oil Co.-Shell Pet. Corp.'s No. 1 Gingras, NE SW Sec. 8-24-1e	Drlg. 3,155 ft.
KINGMAN COUNTY	
Olson and Skelly Oil Co.'s No. 1 Emery, C SW NW Sec. 22-25-6w	Drlg. 3,984 ft.
Regina O. & G. Co. et al's No. 1 Wilson, NW NE Sec. 26-25-5w	H.F.W. 4,065-4,113 ft.; abd.
McPHERSON COUNTY	
Dieter et al's No. 1 Carlson, SE cor. Sec. 4-19-3w	T.D. 3,122 ft.; S.D.
Regina O. & G. Co.'s No. 1 Vogts, C SE SE Sec. 8-20-1w	Viola lime 3,390-98 ft.; acidized; pumped 693 bbls oil in 24 hrs.
Jim MacIson's No. 1 Boesker, SE NW Sec. 29-20-1w	Spudded.
Harris & Haun's No. 1 Rupp, SW cor. Sec. 12-21-2w	Rig.
Paramount Oil Co.'s No. 1 Steinkirchner, NE SE SE Sec. 25-19-1w	Drlg. 3,432 ft.
PHILLIPS COUNTY	
Ashby et al's No. 1 Donaldson, C NE NE Sec. 25-5-18w (O.W.D.D.)	Will deepen.
RENO COUNTY	
Roth & Faurot's No. 1 Yoder, C NW NW Sec. 15-24-5w	Set 6-in. pipe at 3,423 ft.; R.U.
RICE COUNTY	
Atlantic Oil Prod. Co.'s No. 1 Brandenstein, C SE SE Sec. 10-19-10w	C.O.; T.D. 2,940 ft.
Danciger et al's No. 1 Roesler, SW NE Sec. 11-18-10w	Drlg. 2,865 ft.
El Dorado Ref. Co.'s No. 1 Wernet, SW NE Sec. 12-20-6w	T.D. 2,355 ft.; running csg.
Elmer Corn et al's No. 1 Hunter, NE cor. Sec. 35-19-7w	Rig on ground.
Lario O. & G. Co. and Elwell's No. 1 Russell, NE SW Sec. 29-23-7w	Rigging up.
Verne Simmons et al's No. 1 Hunter, NE cor. Sec. 35-19-7w	Rigging up.
Langston et al's No. 1 Markle, NE SW Sec. 1-20-9w	Spudded.
RUSSELL COUNTY	
Western Exploration Co.'s No. 1 Andrea, SW cor. Sec. 30-15-12w	Drlg. 1,895 ft.
Tom Palmer's No. 1 Steinle, NW SW Sec. 22-13-14w	Rig.
SALINE COUNTY	
Lario O. & G. Co.'s No. 1 Burrell, NW SW Sec. 15-14-2w	Drlg. 2,550 ft.
SEDGWICK COUNTY	
Cameron et al's No. 1-A Funk, SW SE NW Sec. 6-26-2e	Rig.; supdded.
Wentz et al's No. 1 Stockamr, SW NE Sec. 31-26-2w	Drlg. 2,190 ft.
STAFFORD COUNTY	
Atlantic Oil Prod. Co.'s No. 1 Willinger, C NE NE Sec. 18-22-11w	Drlg. 1,510 ft.
WOODSON COUNTY	
Lewis Bros.' No. 1 Riggs, SW cor. Sec. 10-26-14	Set pipe at 700 ft.

Stripper Production May Be Affected in Making Up Allowable in December in Oklahoma

By JAMES McINTYRE

In a week otherwise lacking in features, an old oil territory in Tulsa County stirred up interest among producers in that part of the State when the Rachel Oil Co., owned by Messrs. Simcox, Klinginshire and others brought in a well in SW cor. NE NW Section 8-17-14, in the Bixby district, which started off flowing by heads 500 bbls. per day. It was drilled into a sand at 1,488 feet; first oil at 1,501 feet, and drilled only 2 feet below that. H. W. Bowder's No. 1 Perryman, NW cor. NE NE SW Section 5-17-14, got the same sand at 1,480-82 feet and the well swabbed between 50 and 65 bbls. in 24 hours.

The general area is one of the oldest producing regions in Oklahoma. The oil from the Rachel Oil Co.'s well is of high gravity, 41 degrees, and commands the highest price.

The township east of 18-14, and which comprises a part of the Coweta Field, has been one of the most active spots in Oklahoma this year and, while it has had a large percentage of dry holes, that was to be expected, as the history of the Coweta Field has always been that drilling results were either feast or famine. Now that Township 17-14 has shown renewed life it will likely receive a new play from lease owners.

Surprise in Cresent Area

The Sinclair Prairie Oil Co.'s No. 1, C NE NE SW Section 28-17-4w, got Wilcox sand at 6,459-73 feet and opened up a 30,000,000-foot gas production which was killed, and drilling continued. A core was taken from 6,473-77 feet. As this well was running about 400 feet low on structure, the big gas production was a surprise to many observers of operations in that field, and makes it appear that the field will extend east and west farther than was expected only a short time ago. It makes this test an object of much interest.

May Affect Strippers

In order to meet the Federal quota of 457,000 bbls. per day in December, production of the unprorated pools may be reduced along with other fields in Oklahoma. J. R. McWilliams, assistant state umpire, and Ray M. Collins, representing Seminole operators, recommend the following changes be made to bring production down to the Federal allotment:

Pool or area—	Nov. allow.	Dec. allow.
Wilcox zone	135,071	120,889
Simpson zone	52,330	46,835
Fault line	506	468
Oklahoma City total	187,907	168,192
Seminole et al	70,501	66,689
Maud	1,521	1,605
St. Louis	18,489	18,250
Asher-Wanette	2,027	1,648
Konawa	2,409	2,772
Sasakwa	1,051	535
Allen	8,588	8,291
Sasakwa twp.	1,009	887
Earlsboro (Calvin)	3,021	1,600
Tatums	7,344	7,344
Fish	2,805	1,925
Total	119,265	111,546
Lucien	5,397	5,349
Keokuk Falls	747	669
Fish (Simpson)	360	332
Total Class C	7,083	6,340
County Line	550	550
Crescent	50	200
Orlando	150	150
Lucien (Hunton)	.....	50
Total wildcats	750	950
Unprorated	179,995	169,972
Total State	495,000	457,000

Stocks Are Released

On the recommendation of McWilliams, the commission ordered release of the 50 per cent of stocks now held in the Wilcox zone of the Oklahoma City Field, the oil to be credited to November allowable and to be run immediately. McWilliams said that because of inability of some wells to get their full allowable the field would be underproduced between 7,000 and 10,000 bbls. for the month, and that remaining stocks would about balance the figures. This removes all of the stocks which were frozen early in September by a commission order.

Neither McWilliams nor Collins made recommendations on the running of underproduction from the city field during December. The assistant umpire said that he would confer with operators in the field as to their wishes.

Production by Pools

Estimated daily average production in Oklahoma in the week ending November 25 and in the preceding week follows:

	Nov. 25	Nov. 18
Allen	9,225	9,060
Bristow-Slick	11,250	11,300
Healdton	9,800	9,950
Hewitt	5,000	5,100
Burbank	9,400	9,500
Balance of Osage	17,500	17,500
Lucien	6,160	6,030
Bowlegs	11,110	11,390
Carr City	6,215	7,360
Cromwell	4,800	4,800
Earlsboro	9,755	10,020
East Earlsboro	16,030	15,285
South Earlsboro	1,405	1,575
Little River	16,550	17,410
East Little River	865	930
Oklahoma City	185,865	205,615
Seminole	10,000	10,410
East Seminole	1,165	1,575
Searight	2,130	2,665
Maud	1,465	1,510
Mission	4,285	4,510
Cushing-Shamrock	13,250	13,500
St. Louis-Pearson	23,330	22,780
Tatums-Tussey	8,500	7,850
Sholem-Alechem	4,900	5,200
Wewoka	4,250	4,060
Other pools	103,555	105,540
Total Oklahoma	497,760	522,425

Crescent Pool

In the Crescent Pool, Logan County, the Gypsy Oil Co. and Carter Oil Co.'s No. 1 Good, C SW NW Section 27-17-4w, was completed at a total depth of 6,290 feet. It made 2,833 bbls. the first 24 hours. The oil is 41.6 degrees in gravity. There are only five wells drilling in this pool, which is a productive strip north and south. How far north and south it will extend is yet to be shown by drilling operations.

Okmulgee County

In Okmulgee County, the Iron Mountain Oil Co. completed its No. 5 Fife, CNL NE NE Section 4-15-11, which was a 100-bbl. well in Glenn sand at 1,998-2,023 feet, and the same company also completed No. 6 Fife, NW NE NE Section 4-15-11, in Glenn sand at 1,968-2,005 feet. It was shot with 40 quarts and made 35 bbls. in 24 hours.

Hutchinson and others' No. 1-A Moore, NW NE SW Section 15-15-12, was deepened to the Taneha sand at 1,821-30 feet, but the hole filled with water and was abandoned.

D. M. Logan has a 1,000,000-foot gasser in No. 4 Perryman, NE cor. SE Section 31-15-13, in Glenn sand at 1,758-61 feet. It was shut in.

Rose and others were drilling No. 3 Jefferson, NW cor. Section 33-15-15. Muskogee County.

J. M. Fultz had commenced drilling No. 2 Patterson, SE NE SW NW Section 8-15-18, and H. L. Jolly was spudding No. 2 Patterson, SE NE SW NW Section 8-15-18.

Lucien Pool

In the Lucien Pool, Logan County, Stanolind Oil & Gas Co. and Continental Oil Co. completed No. 1 Boley, C SW NW Section 16-20-2w. It was tubed, and swabbed 250 bbls. of oil and 10 bbls. of water from Oswego lime, total depth 2,790 feet, after having plugged back from 5,262 feet. It was a hole full of water in the Wilcox sand. Minnehoma Oil Co.'s No. 1 Schonwald, 440 feet south and 990 feet west of the NE cor. Section 20-20-2w, found Simpson Dense at 5,077 feet; dolomite at 5,100 feet; top of the sand at 5,056 feet; showing of oil at 5,056-57 feet and an increase at 5,100-08 feet. It was drilling at 5,116 feet, and flowing by heads every two hours averaging 40 bbls. per hour. Lucien Consolidated's No. 2 Webber, C NW NW Section 20-20-2w, had 3,800 feet of oil in the hole from the first Wilcox sand at 5,092-94 feet and dolomite at 5,153 feet. The second sand was found at 5,155 feet and the well was drilling at 5,213 feet, but with no increase in oil.

Same operator's No. 2 Webber, C NE NW Section 20-20-2w, got first Wilcox sand at 5,053-94 feet, with a showing of oil, but from 5,094-99 feet the well flowed 780 bbls. in 21 hours. Green shale was topped at 5,117 feet and dolomite was being drilled at 5,157 feet.

Lincoln County

In Lincoln County, Amerada Petroleum Corp. and Stanolind Oil & Gas Co. were moving in material for No. 2 Brill, NE cor. Section 11-14-3, West Chandler district, and made a location for No. 3 Brill, SW NW NE Section 11. No. 1 Brill was at a total depth of 4,925 feet and was being cleaned out preparatory to being deepened with standard tools. In the same township, Phillips Petroleum Co. was running 6-inch casing in No. 1 Rowley, SE SW Section 2-14-3e, which had second Wilcox sand at 5,075-78 feet, total depth. Magnolia Petroleum Co. was bailing No. 1 Rice, NW SW NE Section 11-14-3, in which 9-inch casing was set at 4,950 feet. Stanolind Oil & Gas Co. and others were drilling at 200 feet in No. 1 Simpson, NE NW Section 11-14-3. The American Royalty Co. had made a location for No. 1 Jordan, NW SW NE Section 18-14-3.

Oklahoma County

In the Oklahoma City Pool, Pierce and others' No. 1 Shepard, C NE NW SE Section 15-11-3w, flowed 2,143 bbls. in eight hours and was shut in. Argood Oil Co. has taken down the rig and abandoned the location for No. 1 Jones in Block 7, 403 feet north and 337 feet west of C Section 22-11-3w.

Phillips Petroleum Co.'s No. 3 Drew, 840 feet south and 1,135 feet east of C Section 22-11-3w, at a total depth of 6,551 feet, flowed 144 bbls. in 30 minutes and was shut in.

The Springrose Drilling Co.'s test, No. 1 Edwards, C SE SE Section 19-11-1e, in the Newalla district, was drilling at 5,210 feet. It had Oolitic lime at 5,020 feet.

Helmerich & Payne's No. 1 M.K.&T., 235 feet south and 1,040 feet east of NW cor. Section 3-11-3w, a rig, was the only new operation reported from the Oklahoma City Field during the week.

Greater Seminole Field

Carter Oil Co.'s No. 5 Campbell, NW SW SW Section 20-9-6, an old Seminole City Wilcox sand well plugged back, was completed in Calvin sand at 2,719-61 feet and on a potential test made 673 bbls. of oil and 180 bbls. of water.

Sunray Oil Co. and others completed No. 3 Jacobs, NE NW NW Section 15-7-8. It pumped 60 bbls. in 24 hours from Booch sand at 2,908 feet, total depth 2,952 feet.

Burke-Greis Oil Co.'s No. 2 Davis, C SE SW SW Section 20-7-8, West Holdenville area, swabbed 70 bbls. in 24 hours from Booch sand at 2,814-34 feet. It was shot with 20 quarts.

Amerada Petroleum Corp.'s No. 2 Mitchell, SE NE NE Section 3-6-4, was acidized in dolomite topped at 4,234 feet and pumped 167 bbls. of oil and 300 bbls. of water in 24 hours. It was completed.

Stanolind Oil & Gas Co., Amerada Petroleum Corp. and Indian Territory Illuminating Oil Co.'s No. 1 Landowners, SE cor. Section 26-6-7, Sasakwa townsite, Seminole County, was completed. It flowed 1,312 bbls. in 24 hours from Wilcox sand at 4,025-50 feet.

In the Weleetka district, Okfuskee County, Wells and others completed their No. 2 Stephenson, NE NW SE Section 14-10-11, which was a 200-bbl. initial producer in Booch sand at 1,995-98 feet. Same operators have machine in for No. 4 Micco, SE SW NE Section 14-10-11.

Carter Oil Co. has made location for No. 1 J. Horace, C W half SE SW Section 2-9-6, Seminole County. Bunn and others made location for No. 1 Harris, SW NW SE Section 36-8-7. Burke-Greis Oil Co. moved in rotary for No. 1 Harper, NE NW Section 15-8-7. Mid-Kansas Oil & Gas Co. made location for No. 7 Davis, SE NE NE NW Section 30-8-8. Hart and others spudded No. 1 Deathridge, SE NE SE Section 20-7-4, Pottawatomie County. Vaughn and others have rig up for No. 3 Lowther, SW NE SW Section 33-7-4. Harmon Oil Co. spudded No. 1 Westmoreland, SW SE SW Section 11-7-8. Winona Oil Co. and Jarvis & Holm have rig up for No. 2 Campbell, CEL NE SW SW Section 20-7-8. Magnolia Petroleum Co. spudded No. 1 Witty, SE NW SE Section 22-7-8.

Osage County

Continental Oil Co.'s No. 2, NE cor. SE Section 21-24-7, Naval Reserve area, Osage County, was shot in Bartlesville sand at 2,602-34 feet. It swabbed and flowed 288 bbls. in 24 hours and was completed.

Lewis Production Co.'s No. 2-B, NE cor. SW Section 21-24-7, had Bartlesville sand at 2,633-44 feet. The well flowed 725 bbls. naturally the first 19 hours and 695 bbls. in a later 24-hour test. It may be shot.

Champlin Refining Co.'s No. 2, NE cor. NW SE Section 24-24-7, was completed in a shallow sand, 741-50½ feet, from which it produced 68 bbls. in 24 hours, following a shot.

Bay Oil Co.'s No. 1, NW cor. NE Section 13-23-7, was acidized in Siliceous lime at 2,853-82 feet. It swabbed 25 bbls. of oil and 50 bbls. of water in eight hours.

H. H. Markey's No. 14, SE NE SW SE Section 25-23-8, found Oswego lime at 1,711 feet, total depth 1,726 feet. It swabbed 158 bbls. of oil in eight hours.

New work in the past week included these operations: Lewis Production Co.'s No. 1, SW cor. Section 10-24-7, spudded; Kasishke and Lewis Production Co.'s No. 5, SE NE NE Section 16-24-7, drilling at 380 feet; Producers & Refiners Corp. and Peters Petroleum Corp.'s No. 5, CSL SW NE NE Section 24-24-7, spudded; Norbla Oil Co.'s No. 1, SW SE NE Section 25-24-7, machine in; Skelly Oil Co.'s No. 1, NE

cor. NW Section 28-24-7, spudded; Continental Oil Co.'s No. 5, SE cor. SW Section 15-24-8, rig; Sinclair Prairie Oil Co. and Mead Oil Co.'s No. 2, SW NW NE Section 22-24-8, spudded; Norbla Oil Co.'s No. 1-A, SW cor. NW Section 28-23-9, drilling at 290 feet; Silurian Oil Co.'s No. 60, SE NW NW Section 17-23-12, location; Ohio-Osage Oil Co.'s No. 1, NW SW NW NW Section 35-21-9, location.

Pawnee County

In Pawnee County, Peter Adamson's No. 4 Cohen, SW NW SW Section 3-20-8, is a 15-bbl. well in Layton sand at 1,481-93 feet, and No. 3 Cohen, CWL E half NW SW Section 3, was drilling at 880 feet.

Creek County

The Comail Oil Co., drilling No. 4 Brewer, NW SW NE Section 8-18-7, north end of the Oilton district, Creek County, was drilling at 2,400 feet with 1,200 feet of fluid in the hole coming from sand at 2,421-88 feet. Wheeler, Skinner and Bartlesville sands were barren.

Wood Oil Co. completed No. 2 Grayson, NW NE NE Section 3-18-8. It was shot in Red Fork sand at 2,575-2,604 feet and swabbed 35 bbls. in 24 hours.

F. O. Akin was drilling at 475 feet in No. 8 Wilson, SW NE Section 34-18-8; Bay State Oil Co. had cellar dug for No. 3 Crabtree, NE SE SW Section 34-18-8; Jones & Doss' No. 5 Tiger, NE NW NE Section 34-18-8, drilling at 540 feet; and No. 4 Tiger, CSL NW NE Section 34, at 700 feet; Slyman and others' No. 1 Hendrickson, SW NW NW Section 4-17-8, rigging up; Fred Gray's No. 1 James, SW NE SW Section 9-17-8, a location; Caprock Oil Co.'s No. 1 Kelso, SW SE SE Section 17-17-10, drilling at 420 feet; Bingham Brothers' No. 2 Thompson, SE NE NW Section 36-17-11, machine; Olean Petroleum Co.'s No. 6 Brush, NW NE NE Section 36-15-7, drilling at 1,460 feet.

Stephens County

George Pace and others abandoned No. 2 Bristow (twin), NE SE NE NE Section 28-2s-7w, Stephens County. It had a small showing of oil and made a hole full of water from sand at 1,683-84 feet.

In the Tussey area in Carter County, Walter Neustadt's No. 2 fee, SE SW SW Section 3-1s-3w, is estimated as a 200-bbl. well from broken sands at 2,-619 to 2,835 feet.

Carter Oil Co.'s No. 1 Mary Riddle, C NW NE SW Section 4-1s-3w, swabbed and flowed 165 bbls. in 18 hours. This well had a series of sands from 2,619 to 2,828 feet.

New work started in the southern fields were C. H. Choffield's No. 2-A Little, SW SE SE NE Section 25-7s-5e, Marshall County, drilling at 225 feet; James Peacock's No. 1 Durham, SE SW NW Section 3-7s-6e, Marshall County, drilling at 25 feet; J. V. Scriner and others' No. 1 R. J. Swink, C NE SE Section 29-6s-20e, Choctaw County, location for a 1,000-foot test; Shasta Oil Co.'s No. 15 Patterson, SE SE NE NW Section 1-2s-10w, Cotton County; George Pace and others' No. 1 Comanche townsite, SE NE NE NE Section 29-2s-7w, drilling at 910 feet.

Pontotoc County

Denver Producing & Refining Co.'s No. 3 Hickman, NW SE SE Section 25-5-4, Pontotoc County, pumped 115 bbls. in 24 hours from dolomite at 2,-540-65 feet. It was shot with 100 quarts.

Grady County

Wirt Franklin and Continental Oil Co. will drill deeper in No. 1 Woods, C NE SE NE Section 17-3n-5w, Grady County, present total depth 1,821 feet.

Kansas Fields

(Continued from Page 49)

NW Section 11-26-1e, a wildcat in Sedgwick County.

Atlantic Oil Producing Co. and others' test in northeastern Stafford County, No. 1 Bradbridge, C SE SW Section 1-24-16w, set 6-inch casing at 3,992 feet: found conglomerate at 3,999 feet; Viola lime at 4,002 feet; had a showing of gas at 4,040-44 feet; Simpson sand at 4,070 feet; small showing of oil and 100,000 feet of gas at 4,095 feet; found Siliceous lime at 4,096 feet, and was running 5-inch liner, total depth 4,100 feet.

Roth & Faurot and others were rigging up standard tools to complete No. 1 Yoder, C NW NW Section 15-24-5w, Reno County. Top of the chat was found at 3,419 feet and 8-inch casing was set at 3,423 feet, total depth 3,426 feet.

Holbart Oil Co. and Shell Petroleum Corp.'s No. 1 Gingrass, NE SW Section 8-24-1e, Harvey County, found Mississippi lime at 3,054 feet and a hole full of water at 3,120-23 feet, and were drilling at 3,155 feet.

Lario Oil & Gas Co. and Elwell were rigging up standard tools on No. 1 Elwell, NE SW Section 29-23-7w, Reno County.

Holbart Oil Co.'s No. 1 Harder, SE SW SE Section 11-23-1e, Harvey County, was drilling at 3,421 feet. Base of the lime was found at 3,311 feet; 6-inch pipe was set at 3,315 feet; Viola lime at 3,403 feet, and salt water came in at 3,409-13 feet.

Atlantic Oil Producing Co.'s No. 1 Willinger, C NE NE Section 18-22-11w, Stafford County, set 10-inch pipe at 1,-948 feet, got a hole full of water at 2,-835-45 feet, and was drilling at 2,885 feet.

Langston and others were spudding No. 1 Markle, NE SW Section 1-20-9w, Rice County.

Atlantic Oil Producing Co. and others' No. 1 Brandenstein, C SE SE Section 10-19-10w, Rice County, had Lansing lime at 2,936 feet with a small show of oil and gas, and set 8-inch casing at 2,940 feet. The crew was cleaning out.

Paramount Oil Co. and others' No. 1 Steinkirchner, NE SE SE Section 25-19-1w, McPherson County, set 6-inch casing at 3,106 feet; found Viola lime at 3,375 feet, and a hole full of water at 3,397 feet; set 5-inch casing at 3,397 feet and were drilling at 3,432 feet.

Lario Oil & Gas Co.'s No. 1 Burrell, NW SW Section 15-14-2w, Saline County, found a hole full of water at 2,368 feet; set 8-inch casing at 2,405 feet, and was drilling at 2,530 feet.

Tom Palmer had a rig up for No. 1 Steinle, NW cor. SW Section 22-13-14w, Russell County.

Ashby and others were preparing to deepen No. 1 Donaldson, C NE NE Section 25-5-18w, Phillips County, which had been drilled to 3,440 feet and temporarily abandoned. The owners were building rig and moving in tools.

Wildcat Operations in Oklahoma

Week Ending November 25

Northern Oklahoma

ALFALFA COUNTY

Company, farm and location—	Remarks:
Acre et al's No. 1 Acre, C SW NE Sec. 14-24-11w	T.D. 6,255 ft.; flowed and swbd. 70 bbls.; fishing.

BECKHAM COUNTY

Mid-Texas' No. 1 Sidell, SE SW SW Sec. 17-9-22w	S.D. 3,145 ft.
Pattee Royalty Co.'s No. 1 Goose Tree, SW SE SW SE Sec. 32-10-23w	T.D. 3,965 ft.
West Oak Gas Co. et al's No. 1 Powell, NW SW Sec. 11-9-25w	Rigging up rotary.

COAL COUNTY

Funk & Russell's No. 1 Miller, SE NE Sec. 10-2-8	S.D. 2,750 ft.

COMANCHE COUNTY

Stores et al's No. 1 Crutcher, C NE Sec. 11-1n-12w	Set 10-in. pipe 18 ft.

GARFIELD COUNTY

J. H. Lewis' No. Clark, C NW NW Sec. 34-21-6w	Drlg. lime 6,170 ft.

GREER COUNTY

Otis Cosgrove's No. 1 Border, C S½ NE NW Sec. 31-6-22w	S.D. 160 ft.

HUGHES COUNTY

Dixie Lee Oil Co.'s No. 1 Taylor, C NW Sec. 32-5-10	S.D. 350 ft.
Scruggs et al's No. 1 Black, NE Sec. 13-9-10	Drlg. 2,430 ft.; 2,000,000 ft. of gas at 1,750-65 ft.

KAY COUNTY

Morgan et al's No. 1 Bush, NW NE NE Sec. 25-28-4	Drlg. 3,195 ft.
Burton Lewright et al's No. 1 Leseman, SW NE SE Sec. 4-28-2	Rig.

KIOWA COUNTY

Christian's No. 1 James, NE NW Sec. 8-7-18w	T.D. 1,904 ft.; fishing.

LINCOLN COUNTY

Amerada Pet. and Stanolind O. & G. Co.'s No. 1 Martinek, NW SE Sec. 35-13-5e	D.P. stuck; T.D. 3,798 ft.
Huckleberry et al's No. 1 Boland, SW cor. Sec. 25-12-3e	Drlg. 830 ft.

LOGAN COUNTY

Jadeka Dev. Co.'s No. 1 Frakes, C SW NE SW Sec. 16-15-6w	Rigging up.

MARSHALL COUNTY

Robb et al's No. 1 Vittitoe, NE SE Sec. 11-5s-4e	S.D. 3,315 ft. for fuel.
Paul R. Robb's No. 1 Vittitoe, C NE SE Sec. 11-5-4	T.D. 3,500 ft.; dry and abd.

MURRAY COUNTY

A. E. Harden's No. 1 Sadler, NE Sec. 19-1-2	Rig.
T. E. Revells et al's No. 1 Wolfe, NE cor. Sec. 18-1-2	Running 8-in. pipe; T.D. 1,500 ft.

MUSKOGEE COUNTY

J. S. Routt et al's No. 1 Escoe, CWL SE NE Sec. 17-13-17	T.D. 1,200 ft.; S.D. for 10-in. csg.

OKLAHOMA COUNTY

Springrose Drlg. Co.'s No. 1 Edwards, C SE SE Sec. 19-11-1	Drlg. 5,210 ft.
H. E. Rapp's No. 1 Price, CEL NE SW Sec. 19-14-3w	T.D. 6,708 ft.; acidized; flowed 97 bbls. fluid.
F. Russell's No. 1 Heapley, SW NW NE Sec. 23-12-3w	Wilcox sand 6,649-59 ft.; flowed 262 bbls. in 24 hrs.

PITTSBURG COUNTY

Haley et al's No. 1 Walkerson, NW cor. Sec. 9-2-16	S.D. 678 ft.
Moffett & Hall's No. 1 Jones, C NE NW Sec. 14-3-14	Lost tools; T.D. 3,200 ft.; S.D.

PONTOTOC COUNTY

Galbreath's No. 1 Stafford, NE SE SE Sec. 31-2-6	Drlg. 1,380 ft.
Choctaw O. & G. Co.'s No. 1 Thompson, SW NE SW Sec. 1-1-7	S.D. 1,680 ft.
W. E. McGraw's No. 1 Mayhue, NE Sec. 19-2-6	Gilcrease sand 1,638-40 ft.; will set 5-in. pipe.
McGee et al's No. 1 Newborn, SW NE Sec. 31-5-4	Rig.
Williams' No. 1 Kroth, NE SE Sec. 33-3-4	H.F.W. 1,977 ft.
Wirrick's No. 1 fee, SE SW Sec. 29-2-7	Acidized; flowed 550 bbls. in 24 hrs.; S.D. for tankage.

POTTAWATOMIE COUNTY

Atlantic Oil Prod. Co.'s No. 1 School land, C NE NW NW Sec. 36-10-4	T.D. 4,402 ft.; R.U.S.T.
Conley Drlg. Co.'s No. 1 Vinson, NE cor. Sec. 13-7-4e	S.D. 2,794 ft.
Payne Drlg. Co.'s No. 1 Lovelace, NW SW NW Sec. 27-6-4	T.D. 3,780 ft.; csg. collapsed.
Vivian Oil Co.'s No. 1 Kanster, SE SW Sec. 18-7-4	Set 6-in. pipe 3,926 ft.; W.O.C.S.

SEMINOLE COUNTY

Stewart & Egan's No. 1 Sanderson, NE SW Sec. 27-6-5	H.F.W. 3,740 ft.; P.B. to 3,724 ft.
Flemlee et al's No. 1 Bowlegs, SE NE SW Sec. 1-7-7	U.R. 10-in. pipe, 963 ft.

WASHITA COUNTY

McWhirter & Bost's No. 1 Hall, SW SE SE Sec. 28-8-19w	T.D. 2,155 ft.; lost sand pump.

Southern Oklahoma

ATOKA COUNTY

J. D. Boukan's No. 1 Howard, NW SW NW Sec. 20-2s-10e	Drlg. 875 ft.
Brookshire et al's No. 1 Rowland, NW NE NE Sec. 18-3s-10e	T.D. 3,425 ft. in lime; repairing boiler.

JACKSON COUNTY

Gypsy Oil Co.'s No. 1 Kelly, NE Sec. 10-1n-20w	Drlg. 660 ft.

JEFFERSON COUNTY

Wakefield's No. 1 Kelly, NW SE Sec. 1-5s-8w	S.D. 550 ft.

STEPHENS COUNTY

J. W. Madison's No. 1 Tussey, SW SE NW Sec. 24-1n-4w	Drlg. 2,275 ft.; gas sand at 2,-200-05 ft.
Navajo Oil Co.'s No. 1 Miller, NW cor. NE Sec. 13-1n-6w	T.D. 4,124 ft.; may abd.
Lloyd Oil Co.'s No. 1 McKimmons, SW cor. Sec. 15-1n-4w	Drlg. 1,850 ft.
R. T. Poland et al's No. 1 Green, C NE NW NW Sec. 8-1s-4w	Drlg. 2,119 ft.

TILLMAN COUNTY

J. H. Everett's No. 1 Crane, SW cor. Sec. 15-3s-14w	Rig.

Mid-Continent O. & G. Adds to Directorate

The Kansas-Oklahoma division of the Mid-Continent Oil and Gas Association, at its annual meeting in Tulsa, elected 21 new directors and re-elected all the surviving directors chosen last year. E. R. Filley of the Texas Co. was re-elected president; Rush Greenslade, of the Gypsy Oil Co., vice president; T. C. Johnson, of Wichita, vice president for Kansas; John H. Kane, Phillips Petroleum Co., vice president for northern Oklahoma; Wirt Franklin, vice president for southern Oklahoma, and Clarel Mapes, acting secretary-treasurer.

Resolutions of respect were adopted for the late Kendall Winship, Gypsy Oil Co.; John H. Brennan, Barnsdall Oil Co.; John H. Markham, Dot Oil Co.; Thomas Lidon, Shell Oil Corp.; R. J. Berry, Ohio Oil Co., and Omer K. Benedict, of the First National Bank & Trust Co., Tulsa.

The new directors include L. D. Messner, Barnsdall Oil Co., Tulsa; H. N. Greis, Burke-Greis Oil Corp., Tulsa; Howard Whitehill, Tulsa; Andrew W. Little, Home Gas Co., Cushing; Walter B. Moran, J. E. Crosbie, Inc., Tulsa; H. A. Sherman, the Schermerhorn Co., Tulsa; Carl Weiner, Chanute, Kans.; W. K. Whiteford, Barnsdall Oil Co., Tulsa; John D. McNutt, Pure Oil Co., Tulsa; J. Garfield Buell, Buell-Herndon Corp., Tulsa; Francis L. Jehle, Globe Oil & Refining Co., Blackwell; T. F. Birmingham, Margay Oil Co., Tulsa; Y. P. Broome, Tide Water Oil Corp., Tulsa; George A. Manahan, Manahan Oil Corp., Tulsa; Carl Hipple, Hutchinson, Kans.; John A. Mabee, Tulsa; Arthur O. Olson, Olson Drilling Co., Tulsa; Lloyd Noble, Noble Drilling Co., Tulsa; George S. Rollin, Shell Petroleum Corp., Tulsa; Hayes McCoy, Empire Companies, Inc., Bartlesville; W. P. McGinnis, Indian Territory Illuminating Oil Co., Bartlesville; George Parker, Lewis Production Co., Tulsa; W. H. McFadden, Southland Royalty Co., Ponca City; E. J. Nicklos, Continental Oil Co., Ponca City; Al West, Continental Oil Co., Tulsa; Frank Hinderliter, Hinderliter Tool Co., Tulsa; J. H. McBirney, Tulsa; Leigh Taliaferro, Lew H. Wentz Oil Interests, Ponca City; E. B. Shawver, Wichita, Kans.; R. L. Blaffer, Humble Oil & Refining Co., Houston; Will H. Smith, Ardmore; M. M. Payne, Eagle-Picher Lead & Zinc Co., Henryetta; Alfred J. Wells, Carter Oil Co., and W. H. Francis, Magnolia Petroleum Co., Dallas.

President Filley presided and J. D. Collette of Fort Worth, general president, gave a short talk on the petroleum code. J. R. Crawford of Shreveport, president of the Louisiana-Arkansas division, also attended.

After a luncheon of officials at the Tulsa Club the majority of the members attended the meeting of the production committee of the association headed by John F. Darby, Darby Petroleum Corp., at the Mayo Hotel.

STANDARD OF KANSAS

Stockholders of Standard Oil Co. of Kansas have authorized retirement of 120,000 shares of capital stock held in its treasury. The stock was recently placed on $2 annual dividend basis.

XUM

Large Lease Deals in Greta Pool, Refugio County; Two Water Wells Limit the Livingston Field

By W. A. SPINNEY
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., Nov. 27.—The Gulf coastal area was featured the past week by purchases of proven leases by Stanolind Oil & Gas Co. and Atlantic Oil Producing Co. in the Greta Pool, Refugio County, in the southern coastal district. The consideration of the combined trades was reported to involve a total of $1,120,000, payment to be made half in cash and the remainder from a percentage of the oil production. Stanolind Oil & Gas Co., a producing unit of the Standard Oil Co. (Indiana), has contracted to purchase Alamo Petroleum Co.'s half interest in several tracts and a full interest in the Texas Gulf Production Co.'s acreage in the Greta Field.

From Texas Gulf Production Co., Stanolind obtains three 50-acre tracts in the north part of the field in the E. H. Winfield and J. H. Peoples Surveys and a 79.8-acre tract in the J. H. Peoples Survey, on which two producing wells have been completed. Alamo Producing Co. has sold its one-half interest in two tracts, totaling approximately 322 acres, on which two producing wells have been completed, in the western part of the M. J. Ximines Survey, and in approximately 400 acres on the west side of the field in the E. H. Winfield Survey, which is not as yet developed. The other half interest in the Alamo Petroleum Co. leases is held by the Atlantic Oil Producing Co., which has had this interest from the beginning of the development in the field.

Negotiations for this property have been under way for about two weeks and the officials of the Stanolind Oil & Gas Co. have been in the field during the week attempting to bring the deal nearer to conclusion.

This purchase by Stanolind Oil & Gas Co. adds to its previous holdings in the Greta Field, which consisted of a half interest in two drilling wells in the northern part of the field. These two tests are outpost attempts and are more than a mile north of the production in the area. They are located in the James T. McGrew Survey and if paying wells are found it will prove up considerable of the acreage acquired in this new purchase. The acquisition marks another step in the company's recent expansion program on the Gulf Coast and which presumably is inspired by the necessity of supplying an adequate reserve of crude oil to the Pan American Refining Co.'s plant now under construction at Texas City.

Floboots Oil Co.'s No. 1 M. C. Bauer is a derrick. It is the most easterly test at Greta and is located on a 25-acre tract in the M. J. Ximines Survey, about 3,000 feet east of the Nesral Oil Co.'s No. 2 W. Heard, the only deep producer in the field, which found production at 5,919 feet.

Livingston Field

The Livingston Field in southern Polk County was featured by two water wells, one on the west side of the present producing area and the other on the east side of the field. Hopes of extending production more than a mile to the west were shattered when Humble Oil & Refining Co.'s No. 3 Grandbury, about 6,000 feet due west of its No. 1 Grandbury, the most westerly well in the Livingston Field at the present time, found salt water in sand at 4,324 feet. It is drilling deeper in search of another pay horizon.

Shell Petroleum Corp.'s No. 3 Davis-Holmes, M. C. Swinney Survey, on the east edge of the field, found water in sand at 4,380-4,419 feet, was drilled to a total depth of 4,529 feet, and after attempting to plug back 40 or 50 feet, was abandoned. It is believed these two wells define the eastern and western edges.

Skelly Oil Co.'s No. 2 Sanders, A. Viesca Survey, is expected to be the next test completed as an oil well in the field. It found showings of oil and gas in sands at 4,282-92 feet and more sand from 4,309-13 feet. Cores of these two sands reveal oil showings that indicate a good sized producer. The west offset to Skelly Oil Co.'s No. 2 Sanders is Humble Oil & Refining Co.'s No. 2 Grandbury, completed during the past week, making 20 bbls. of oil an hour through a one-quarter inch choke, from sand at a total depth of 4,310 feet.

Pure Oil Co.'s No. 1 Houston, wild, burning well in the Louise Field, Wharton County, was snuffed out by a heavy charge November 24, exactly one week after it caught fire. It was the second attempt to extinguish the flames with an explosive. The first blast was insufficient and had no effect on the blazing well. Since the fire was extinguished, production from the well has been estimated at 100,000,000 to 150,000,000 feet of gas a day and from 500 to 1,500 bbls. of oil a day, with no water showing. Workmen started trying to shut off the tremendous flow of oil and gas and save the well. Precautions also have been taken to prevent another fire and all the other tests on the windward side have been shut down and no fires are permitted.

Conroe Field

The cratered well in the Conroe Field, Montgomery County, presents an interesting study. The relief well, 427 feet to the northeast, is drilling around 1,450 feet, where attempts are to be made to deflect this hole to a point near the bottom of the cratered well which is at 5,097 feet.

For the week ending November 19 there were a total of 639 producers in the Conroe Field and the daily average production from these wells for the same week was 56,105 bbls. This amount includes the production from the Harrison Oil Co. and Abercrombie Co.'s cratered well. Added to the 639 wells, nine more wells were completed during the week ending November 25. It is estimated by producers in the field that only about 150 more locations will be drilled within the present limits and after this number has been completed the field will have been drilled up. If this estimate is correct it will give the field a total of approximately 800 wells, with the producing acreage estimated at 17,000. The allowable production for the Conroe Field is still 49,000 bbls. daily, exclusive of the cratered well.

Thompson Field

Production in the Thompson Field, Fort Bend County, was extended approximately a half mile to the north during the past week by the completion of H. M. Naylor and others' No. 1 Gehr, in the Samuel Kennedy Survey. The well is reported to have made an initial production of 125 bbls. a day from sand at a total depth of 5,406 feet. The completion of this well proves up considerable acreage for future drilling activities. Humble Oil & Refining Co.'s No. 9-A George, J. Rabb Survey, was also completed for an initial production of 54 bbls. an hour through a three-eighths inch choke from a total depth of 5,350 feet.

Tomball

Development at Tomball, Harris and Montgomery Counties, showed a sudden spurt during the week. A total of eight new locations were announced for this field in one week. All of these new operations are inside locations with the exception of one. Stanolind Oil & Gas Co. and others' No. 2 Theis, in J. H. Edwards Survey, Montgomery County, in the southeast corner of the lease. This test is on the same lease as the company's No. 1 Theis, completed recently extending production in the field 7,500 feet northwest. The other locations were in Harris County, one by the Amerada Petroleum Corp., five by the Humble Oil & Refining Co. and Magnolia Petroleum Co., and one by Texas Co.

Victoria County

At Colletto Creek, Victoria County, the wild well of the Stoneleigh Oil & Gas Co. and others, No. 1 Zimmer, bridged itself and was cemented and abandoned at a total depth of 4,846 feet. The south offset to this test, John F. Camp's No. 1 Maurer, found a sand showing oil and on a drill stem test, open eight minutes, it showed 425 pounds pressure, with a trace of oil. It was produced through a one-quarter inch choke from sand at 4,-441-47 feet.

Starks Field

Union Sulphur Co.'s No. 3 Industrial Lumber Co., Starks Field, Calcasieu Parish, swabbed a small amount of oil from the pay sand at 3,427-31 feet. This well extends the production one location to the east. Gulf Refining Co.'s No. 33 Lutcher Moore, also at Starks, was completed making 426 bbls. of oil through a one-half inch choke from a total depth of 3,020 feet.

East Hackberry

In the East Hackberry Field, Cameron Parish, Gulf Refining Co.'s No. 12 Erwin made 2,640 bbls. from a new pay sand found at a total depth of 7,490 feet, through a one-half inch choke. A gas pressure of 1,100 pounds was registered on the tubing. The oil tested 32 gravity, corrected. The Erwin well is near the Calcasieu Lake edge of the field and is the deepest producing well in the field. Texas Co.'s No. 11-B State is a derrick, a few hundred feet from the new Gulf producer.

Barbers Hill

The Texas Railroad Commission has not yet completed potential tests of production at Barbers Hill Field in Chambers County. The flowing well tests have been completed but the pumping wells are yet to be tested for potentials. The actual daily average production from the Barbers Hill Field for the week ending November 19 was 17,634 bbls. from 110 wells. At present there are 13 tests drilling.

Hull Field

Production from the Jackson horizon in the new play which has been going on on the southeast side of the Hull Field in Liberty County is being extended

(Continued on Page 63)

Gulf Coast Fields and Wildcats

Week Ending November 25

DAMON MOUND—BRAZORIA COUNTY

Company, farm and location—	Remarks
Intercoastal Oil Co.'s No. 11 Wisdom, 350 ft. E of No. 6, Blk. 51, Lot D, A. Durst Sur.	Standing 2,174 ft.

MANVEL—BRAZORIA COUNTY

Texas Co.'s No. 6 Belcher, H. N. Little Sur., South 42° W 2,400 ft. and S 48° E 400 ft. from N cor. lease	T.D. 5,476 ft.; standing.
Texas Co.'s No. 6-B Belcher, 880 ft. NW, 900 ft. NE from S cor. of H. N. Little Sur.	Rigging.
Texas Co.'s No. 7 Belcher, 1,430 ft. S 48° E, and 900 ft. W 42° E from NW cor. of W. T. Belcher "A" lease, H. N. Little Sur.	Drlg. gumbo 1,183 ft.
Texas Co.'s No. 1 Ellis, 1,660 ft. N, 807 ft. S, from NW cor. of lease, H. N. Little Sur.	Drlg. shale 6,026 ft.

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Prod. Co.'s No. 5 Fisher, Wm. Bloodgood Sur., 75 ft. N line, 191 ft. W of No. 4	Sand 5,273-5,303 ft.; cmtd. csg.
Mills Bennett Prod. Co.'s No. 3-E Gulf fee, 442 ft. W along S line, 710 ft. N at right angles to S line	Comp. 1,376 bbls. a day; ½-in. choke, 4,876 ft.
Mills Bennett Prod. Co.'s No. 1-D Barber, 78 ft. S, 65 ft. W of NE cor.	Recmtd. csg. 1,359 ft.
Humble O. & R. Co.'s No. 3-C Kirby, H. Griffith Sur., 311 ft. from SE line, 659 ft. NE line of lease	Drlg. salt 2,416 ft.
Sinclair Prairie Oil Co.'s No. 14 Wilburn (W.O.)	Abd. 3,908 ft.
Sinclair Prairie Oil Co.'s No. 15 Wilburn, Henry Griffith League, 150 ft. W of No. 14	Drlg. salt 3,060 ft.
Sinclair Prairie Oil Co.'s No. 16 Wilburn, 50 ft. N and 50 ft. W of No. 12	Drlg. sand 4,893 ft.
Sun Oil Co.'s No. 16 J. Wilburn, Henry Griffith Sur. (W.O.)	T.D. 3,760 ft.; to W.O.
Sun Oil Co.'s No. 17 Wilburn, Henry Griffith League, 150 ft. W of No. 6 and 50 ft. S of N line	Drlg. rock 958 ft.
Sun Oil Co.'s No. 18 Wilburn, Henry Griffith League, 50 ft. N of S line, 50 ft. E of W line of lease	Drlg. rock 1,020 ft.
Texas Gulf Prod. Co.'s No. 2 Fitzgerald, Henry Griffith League, 300 ft. W line, 80 ft. S line	Drlg. sand 5,048 ft.
Texas Gulf Prod. Co.'s No. 3 Wilburn, 50 ft. out of the upper SE cor. of lease, Wm. Hodges Sur.	Drlg. rock 969 ft.
Texas Co.'s No. 6 Wilburn (W.O.), Henry Griffith League, 250 ft. W of No. 4 and 50 ft. S line of lease	Rigging.
Yount Lee Oil Co.'s No. 21 Chambers County (W.O.), Wm. Bloodgood Sur.	Drlg. shale 5,313 ft.

BIG CREEK—FORT BEND COUNTY

Gulf Stream, Inc.'s No. 1 A. H. Theis, 236 ft. E of old No. 4 A. H. Theis in line, Mitchell Young Sur.	Sand 2,832 ft.; standing.
McPhail et al's No. 1 Wheat	Sand 2,458 ft.; standing.

NASH—FORT BEND COUNTY

Harrison Oil Co. and Abercrombie Oil Co.'s No. 16 Nash, 396 ft. E, 827 ft. S of lease, T. H. Allisbury Sur.	Drlg. salt 5,006 ft.

RABBS RIDGE—FORT BEND COUNTY

Humble O. & R. Co.'s No. 6-A Gubbles	Drlg. sand 2,836 ft.

(Continued on Page 74)

New Stratum of Large Potential in Sligo Field; Two Dry Holes in the Mississippi District

By J. R. CRUMPTON
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Nov. 27.—United Gas Public Service Co.'s No. 1 Skannell Unit, Section 13-17-12, in the Sligo gas field, Bossier Parish, blew in unexpectedly while the crew was drilling at 3,220 feet, and at this writing is still running wild with an estimated flow of 70,000,000 feet of gas and a light spray of salt water. The well was started as a deep test in a gas area which has consistentiy produced from horizons from 1,400 to 2,400 feet. Nine and five-eighths-inch casing was set at 2,660 feet which was intended to cut off the known gas producing sands, and the present development seems to have uncovered a new stratum of large potential flow. Whether the well will be brought under control and completed at this depth or the anticipated deep test continued is not known at this writing.

The Converse Field in Sabine Parish furnished two of the three producers reported out of a total of 13 completions. J. E. Sedberry's No. 1 E. K. Harris, Section 10-9-13, used acid at 1,852 feet in the chalk and was completed with an estimated flow of 500 bbls. daily through 2-inch tubing. In the same section, W. T. Boyd's No. 1 W. A. Litton was completed flowing 80 bbls. daily from 1,507 feet. The flow is coming through 6-inch casing and should increase when tubing is run.

In the Zwolle Field, Sorrento Oil Co.'s No. 1 S. J. Williams, Section 24-7-11, was a 15-bbl. pumper from 2,665 feet. This area also reported one dry hole, C. H. Tuttle's No. 4 Byrd, Section 7-7-17, dry and abandoned at 2,606 feet.

Eight Dry Holes

A total of eight dry holes was reported in the North Louisiana district, some of them wildcats of more than passing importance. J. P. Evans' No. 1 Claude Burson, Section 27-18-9, Webster Parish, was abandoned at 3,515 feet after testing 14 fourbles of salt water with a small show of gas in the Woodbine at 3,235-52 feet. The same operator is staking another location in Section 29-18-9, about 2 miles west of the abandoned test. In Catahoula Parish, George Greer and others' No. 1 Millsaps, Section 22-10n-7e, was abandoned in salt water at 3,018 feet. United Gas Public Service Co.'s No. 2 Tony Durrett, Section 5-19-5, on the flank of the Sugar Creek gas field in Claiborne Parish, resulted in the anticipated failure after checking low in comparison with the producers on the upper Trinity high in that area. The well was abandoned in salt water at 4,663 feet. Other wildcats abandoned follow: Bossier Parish, J. A. King and others' No. 1 Ray Oden, Section 4-18-13, salt water with show of oil at 1,704 feet; Caddo Parish, J. B. Hutchinson trustee's No. 1 Story & Phillips, Section 28-16-13, dry at 2,700 feet; Natchitoches Parish, Tullos Oil Co.'s No. 1 Stephens, Section 25-10-6, dry at 1,800 feet.

New Locations

Fifteen new locations were staked in the North Louisiana area, 12 of them in the Converse and Zwolle Fields, the other three in widely separated parishes. A new block was reported from the southern part of Sabine Parish, M. J. Kissick has assembled 7,000 acres centering around Section 9-4-12, with a drilling clause for a 3,000-foot test to begin by February 1, 1934. It is reported that Memphis, Tenn., capital is behind the operations on this block. In the Blanchard gas area of Caddo Parish, Louana Oil & Gas Co. is rigging up on its No. 2 Hammock in Section 32-19-16, and in another gas area, Ouachita Parish, Hatcher & Evans have made location for their No. 9 Hatcher, Section 17-19-4e. Near the Haynesville Field in northern Claiborne Parish, Haynesville partnership, composed of the original backers of the discovery well in that field, is rigging up on its No. 1 Anna Taylor in Section 11-23-8. This will be a deep test to the Trinity series which should be contacted around 4,500 feet. The pay in the Haynesville Field comes from the Blossom sand around the 2,800-foot level.

None of the wildcats in this district developed any startling interest during the week. Jack Whitson's No. 2 Sanders, Section 19-11-13, DeSoto Parish, had an estimated flow of 1,000,000 feet of gas from lime at 3,230 feet and arrangements are being made to set casing to test. Other wildcats in DeSoto: Gaskill and others' No. 1 Jim Guy, Section 3-11-13, set 10-inch at 80 feet; Gravel Point Syndicate's No. 1 Guy, Section 4-14-12, drilling at 2,300 feet; Hirschfield & Bailey's No. 1 Mickie, Section 7-13-12, testing at 1,775 feet; George M. LeGrand's No. 1 C. W. Faris, Section 19-11-15, drilling at 1,030 feet. E. T. Oakes has resumed drilling on his No. 1 Bryant, Section 30-13-15, a deep test near the town of Logansport. The latest report has the crew coring in lime at 4,765 feet. A test below the chalk in the Converse area, H. C. Lessinger's No. 1 Bowman-Hicks, Section 13-9-13, tested 500,000 feet of gas at 3,283 feet and is coring ahead.

MISSISSIPPI

Two dry holes, both wildcats, were the only completions from Mississippi during the past two weeks. In Winston County Hedrick-Camp Drilling Co.'s No. 1 Watkins, Section 12-13-11, was dry and abandoned at 2,544 feet. A well in Webster County, inactive during the past year, P. H. McAlpine's No. 1 Hensley, Section 15-21-11, was finally abandoned in gravel at 1,800 feet. About five rigs are active in the Hinds-Rankin area of the Jackson Field, and the few scattered wildcats over the state are making slow progress. In Madison County, H. A. Wilson, trustee's No. 1 Copex, Section 24-9-3e, is shut down in the Wilcox at 1,950 feet, and in Newton County Bob Dalton's No. 2 Majures, Section 25-6-11, is drilling at 2,950 feet. Beavy Corp.'s No. 1 R. J. Beavy, Section 33-2n-4e, Simpson County, is drilling in gummy lime at 1,490 feet. A new test in Tallahatchie County, R. E. Collins and others' No. 1 Bunton, Section 28-26n-3e, began operations on November 9 and is drilling at 1,500 feet. Orbit Drilling Co.'s No. 1 Parker, Section 14-14-1e, Warren County, is drilling in sand at 1,520 feet.

Daily Average Runs

The fields of North Louisiana and Arkansas showed a net gain of 945 bbls. daily in runs during the past week, the former increasing 495 bbls. and the latter 450 bbls. The daily average runs from the several pools were:

NORTH LOUISIANA

	Bbls.
Caddo light	4,465
Caddo heavy	1,350
Converse	990
Cotton Valley	465
DeSoto and Red River	1,505
Elm Grove	395
Haynesville	3,810
Holly	190
Homer	2,590
Pleasant Hill	230
Sarepta-Carterville	800
Urania	3,145
Zwolle	6,265
Total North Louisiana	26,190
Total previous week	25,695
Increase	495

ARKANSAS

Champagnolle	1,300
El Dorado	3,585
Lisbon	420
Miller County	1,030
Nevada	550
Smackover light	2,640
Smackover heavy	21,175
Stephens	650
Urbana	2,975
Total Arkansas	33,325
Total previous week	32,875
Increase	450
Total both states	59,515
Total previous week	58,570
Increase	945

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

North Louisiana

BIENVILLE PARISH

Company, well, farm name, section and block—	Remarks:
Poole & Johnson's No. 1 H. E. Sudduth, 1,170 ft. E and S, C Sec. 28-14-16	Derrick.

BOSSIER PARISH

McKinney & Stewart's No. 1 Nattin, 470 ft. W, 1,620 ft. S, NE cor. Sec. 22-22-14	Drlg. 400 ft.
C. E. Reid, tr.'s No. 1 Dotys, 730 ft. S, 618 ft. W, NE SE Sec. 7-16-11	Rigging up.

CADDO PARISH

R. E. Davidson et al's No. 1 DeWitsey MacMillan, 500 ft. N, 330 ft. E, SW cor. Lot 16, Sec. 23-16-13	S.D. 1,024 ft.
J. B. Hutchinson, tr.'s No. 1 Story Phillips, 330 ft. N and E, SW cor. SW NE SE Sec. 28-16-13	Dry and abd. 2,700 ft.
A. D. King, tr.'s No. 1 Roach, 641 ft. E, 375 ft. N, SW cor. Sec. 4-14-16	S.D. 1,154 ft.

CALDWELL PARISH

Hartley et al's No. 1 Taylor, most southeasterly cor. Sec. 42-14-4e	Derrick.
Terrell & Price's No. 1 La. Central Lbr. Co., 300 ft. N, 200 ft. W, SE cor. NW NE Sec. 18-11-3e	S.D. for wtr. 1,740 ft.

CATAHOULA PARISH

George Greer et al's No. 1 Millsap, 250 ft. S and E NW cor. Sec. 22-10n-7e	S.W. and abd. 3,018 ft.

DE SOTO PARISH

Bailey Gantz et al's No. 1 Jenkins, NW cor. SE SW Sec. 35-13-12	S.D. 3,600 ft.
Gaskill et al's No. 1 Jim Guy, 200 ft. N, 300 ft. W, SE cor. Sec. 3-11-13	Set 10-in. 80 ft.
Gravel Point Synd.'s No. 1 Guy, 200 ft. N and E, SW cor. Sec. 4-14-12	Drlg 2,300 ft.
Hirschfield-Bailey Interests' No. 1 Mickie, 660 ft. N and E, SW cor. SE Sec. 7-13-12	Testing 1,775 ft.
D. H. Sebastian, Jr.'s No. 1 W. H. Hill et al, 200 ft. S and E, C Sec. 3-10-13	Rigging up.
A. F. Tarver's No. 1 Barnhart, 330 ft. N and W, SE cor. NE Sec. 16-15-13	Drlg. 1,403 ft.

GRANT PARISH

L. L. Lindsey et al's No. 1 Edenborn, 250 ft. E, 150 ft. N, SW cor. SE SE Sec. 13-7-4	Coring 905 ft.

JACKSON PARISH

A. C. Thomas' No. 1 Johns, 330 ft. N and W, SE cor. NE NE Sec. 25-1s-3	S.D. 2,055 ft.

NATCHITOCHES PARISH

Geo. R. Stevens' No. 1 Clarke-Boyce Lbr Co., 330 ft. N and W, SE cor. Sec. 16-5n-6w	Rigging up.
J. B. Storey, tr.'s No. 1 Page est., NE cor. SE NW Sec. 18-8-9	Set 10-in. 40 ft.

SABINE PARISH

Frank R. Foster, Inc.'s No. 1 D. E. Stephens, 330 ft. S and E, NW cor. SE NW Sec. 17-9-11	S.D. 3,166 ft.

CONVERSE DISTRICT

Arrock Oil Co.'s No. 1 Hewitt, 330 ft. N and E, SW cor. NE SE Sec. 20-9-13	P.B. to 1,525 ft.; old T.D. 1,976 ft.
W. T. Boyd's No. 1 W. A. Litton, 62 ft. S, 65 ft. E, of NW cor. Blk. 30, center of Lot 3, Converse townsite, Sec. 10-9-13	Comp. flowing 80 bbls.; 1,507 ft.
Calatex O. & G. Co.'s No. 1 Whitney Corp., 415 ft. N. 330 ft. E, SW cor. SE Sec. 4-9-13	Rigging up.
A. G. Craig's No. 1 Belton, 330 ft. N and E, SW cor. NW NW Sec. 33-9-13	S.D. 40 ft.
Florence Oil Co.'s No. 1 Crawford, 330 ft. S and W, C Sec. 20-9-13	Set 10-in. 100 ft.; coring 1,500 ft.

(Continued on Page 78)

Russian Engineers Find Coastal Fields Like Own

HOUSTON, Tex., Nov. 27.—Production problems in the coastal fields near here are being studied by a group of officials of the Russian oil commission who arrived here several days ago for inspection of the various fields.

Heading the party is N. V. Vannikoff, chief engineer of oil equipment, who has been assigned by Russia to the Amtorg Trading Corp. to make a thorough study of American equipment and oil field practices.

Accompanying him are: G. B. Agaverdiev, first vice president and general manager of drilling and production for the Oil Combine Azneft, Baku, U.S.S.R.; M. B. Badalianz, superintendent of drilling for Maineft, Maikop, U.S.S.R.; D. A. Muradbeili, general superintendent of drilling in the fields of Surakhany; P. J. Sechevoy, general superintendent of drilling in the new fields of Surakhany, Baku.

"Many of our fields in the Azneft and the Baku areas are similar to the Texas coastal fields in structure and high pressure conditions," Mr. Vannikoff declared, "and we are making a thorough study of the methods and application of your equipment in overcoming the various problems.

"We are particularly interested in American-designed and manufactured equipment in the oil fields," he said.

Mr. Agaverdiev said a number of engineers and officials will be sent to tour the American fields later.

XUM

Complete Several Wells in North Duval County; Activity in Upper Section of Balcones Fault

By B. D. STEVENSON
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Nov. 27.—Several completions were reported in the north Duval County area, which is the liveliest district in Southwest Texas at this time. For the most part they added production rather than acreage but Texas Co.'s No. 2-C Duval County Ranch Co. (first reported as Texas Co.'s No. 1 fee), came in for 50 bbls. an hour in sand at 2,276-94 feet, 660 feet east of the nearest producer in the Stewart-Reynosa or northwest extension to the North Government Wells Pool. The field consists of seven wells in a row north and south and six wells running east at right angles and three other producers.

Texas Co.'s new producer is about 4,000 feet northwest of the nearest Magnolia producer at the northwest corner of the North Government Wells Field. It makes an interesting story as to what will happen in that district. Texas Co.'s No. 2-C is a good average sized well and does not look like an edge proposition.

Magnolia announced a new location at the north end of the North Government Wells Pool. It is No. 8 in Survey No. 208 and is 660 feet north of No. 6 which is the last well on the east end of the north row of producers of the field. Magnolia owns all the acreage for a mile north and is starting now on the second row.

At the south end of the district where Rodney DeLange recently brought in a well in Survey No. 60, a half mile west of the old original Government Wells Field, the offsets have not been completed but Magnolia's No. 3 Lundell, an east offset, got the sand at 2,232-50 feet, practically the same as the DeLange well and has set casing. DeLange has made location for his No. 2 Lundell a little northwest of his No. 1.

Eagle Hill Pool

The new Eagle Hill Pool, 4 miles north of North Government Wells, now consists of four producers in a row north and south 660 feet apart. Texas Co. completed its No. 5-A on the north end in Survey No. 206 for 10 bbls. hourly in sand at 1,490-97 feet. It is not as big as the discovery well which it offsets. Buchanan brought in his No. 2, a south offset to the discovery well, for about 500 bbls. a day pinched to the allowable of 36 bbls. daily. It is about as big as the discovery well.

Texas Co. is starting on its No. 6-A east of No. 5-A and No. 7-A west of No. 5-A and Buchanan is starting a west offset to Kelley's No. 1 Foster.

During the week Killam's No. 3 Wood-Welder, about 1 mile south and a little east, made a test at 1,431-36 feet presumably in the Cole sand and got mud, gas and a rainbow of oil. Elevation data is not at hand but the depth is 60 feet less than the producers in the field, and may not be a final verdict.

Plymouth Well

The feature of the week in north Duval County was probably Plymouth Oil Co.'s No. 3 Hoffman in Survey No. 114, 5 miles east of Sarnosa Pool and a quarter mile east of the Conway and Campbell gas well, the only production in the district. Plymouth tested salt water at 2,745-2,830 feet, 85 feet of gas with one 2-foot break of shale. There was a good saturation at one section in the log and the log is analyzed as indicating an edge well. Considering that the Conway and Campbell well went only 9 feet into the top of the sand and got gas and the Plymouth well got a showing of oil in the upper section of the sand it is thought there is probably a good chance there yet of bringing in a pool. Conway and Campbell may now deepen their test a little and chances are the Plymouth will make a location midway between the Conway and Campbell gas well and its No. 3. The Plymouth log shows sand at 2,745-52 feet, shale 2,752-55 feet, sand 2,755-2,830 feet with showing of oil at 2,755-64 feet and water below 2,764 feet.

With the exception of the Driscoll Pool in the southern part of the county there is no production at this time east of the Government Wells, Kohler and East Texas line of pools excepting the Conway and Campbell gas well.

Other wildcats in northern Duval County and southern McMullen County furnished no news of importance excepting that Armoil Co.'s No. 1 Martin in southern McMullen, shut down at 900 feet over the week end for fuel, had a pretty good sand at 700 feet and that showed oil and gas and salt water. The core showed a good sand.

Starr County

Sun Oil Co. completed No. 2-B Guerra in the Cuevitas Pool in northwestern Starr County in sand at 2,232-68 feet for 400 bbls. of oil daily. It is north of the discovery well and south of No. 1-B Guerra that was located too far north and missed the sand. No. 2-B is in the regular sand and is about as good a well as any completed. Sun has finally abandoned No. 6-A, the farthest east location at 3,460 feet. McGinley, who drilled his No. 1 Guerra 3 miles southeast of Sun's Pool and got a dry hole, is going to try again and has made location for his No. 2 Guerra.

Duval County Deal

In Duval County within the past week negotiations resulted in the purchase by Mrs. Norma M. Hancock of one-half of the Trinity Drillers interest in 7,000 acres out of the Hagist ranch in northern Duval and southern McMullen Counties and all of the Trinity Drillers interest in the new Eagle Hill Pool, and purchase by H. H. Cooper, Earl Frates and Mr. Bristol of one-half of Lamar Seeligson's interest in the same 7,000 acres and all of his interest in the Eagle Hill Pool. The consideration was part cash and part to be paid out of oil and the two transactions are understood to net around $100,000. Trinity Drillers' No. 1 Hagist is now drilling on the 7,000-acre block.

Cloyes and others abandoned No. 1 Hagist in Survey No. 265 near the north line of Duval County, a little east of north of the North Government Wells Pool. A number of the wildcats lately drilled along the Government Wells play have been failures but uncovered good indications that there is production to be had in that district. Cloyes had a little showing in the Cole sand at 1,407 feet and in the Government Wells horizon he had three sands, all with showings of oil and no water. These were at 2,017-28 feet, 2,066-70 feet and 2,094-99 feet. The hole was abandoned at 2,307 feet.

Coast Country

Early this week it was expected that Banquette Oil Co. would have completed its tanks and separator and have No. 1 Ingram turned into the separator. It is a good well but was ungauged at the last week end. It starts some development in that area and Garland Clymore has made location northwest of it and a west offset to Houston Oil Co.'s No. 1 Ollie Purl, producing at 4,848 feet, and Mr. Clymore has announced he will immediately build a 50,000-gallon natural gasoline plant. The Banquette Oil Co. well produces when opened a big volume of gas and very high gravity oil, as does also Houston Oil Co.'s No. 1 Purl. The Clymore company has a plant in the Refugio Field that is producing about 30,000 gallons daily. It is reported that a 500-bbl. topping plant is also contemplated to handle other production.

An important transaction in the coast country the past week was the leasing of all of St. Joseph Island along the shore at Aransas Pass, consisting of 32,000 acres, and 12,500 acres off the south end of Matagorda Island by George J. Greer of Dallas. There is no surface geology worth speaking of and it is understood some extensive geophysical work will be done before starting to do any drilling.

Pettus Territory

McLain's No. 1 Weiss, southeast of the Pettus Pool in Bee County, after getting to 4,500 feet, is plugging back to the Pettus sand at about 4,190 feet. It tested the Yegua sand at 4,510-25 feet, but got salt water. The Yegua has furnished a little oil in the Tuleta Pool off to the southwest. McLain plugged back a little and is whipstocking out and will drill down to the Pettus sand logged at 4,162-4,206 feet and will try and make a gas well. On drill stem test it showed 425 pounds. This is really a wildcat well and is too far southeast of the Pettus Pool and northeast of Tuleta to connect with either.

DeWitt County

A new wildcat is to be drilled in DeWitt County by C. B. Bunte, Inc., on the Hilgartner tract 3 miles northeast of Nordheim. Humble Oil & Refining Co., Darby Petroleum Co. and McMurray all have tracts of considerable size in the district. Darby owns acreage on three sides of the lease the test is on and Humble owns acreage at a greater distance.

Balcones Fault

In the upper sector of the Balcones fault interest is still active for Serpentine production and magnetometer has been used in the district with considerable success. Marts & Beavens, as result of the magnetometer work of Paul Crawford, has found some good production and have made location for a test north of Kimbro in Travis County, where a Serpentine plug has been worked out and where there has been considerable drilling in the past year or two in the hope of finding a plug and production in it. Marts & Beavens' test is No. 1 Sandahl, 150 feet from north and east lines of 106-acre tract in Thomas Smith Survey north of town of Kimbro. Serpentine is expected at around 600 feet and the test was rigging up early last week and will probably be at pay depth by the time this is read.

Final completion report on Cole Petroleum Co.'s No. 1 Rowe in Bastrop County, on the west side of the Cedar Creek Pool, rates it as good for 10 bbls. daily. When it first came in it was thought it would make a big well. Marts & Beavens' No. 1 Smith, on the east side of the Batts Pool, finally proved a failure and has been abandoned.

Of the Edwards lime tests along the Balcones, Amerada Petroleum Corp.'s No. 1 Doerring in Frio County is close to Edwards lime depth got at around 6,300 feet in the No. 1 Halff & Oppenheimer off to the northeast.

Nessly's No. 1 Coffey in Bexar County, 14 miles southeast of San Antonio, at 200 feet stopped drilling and may be moved. The shallow markers seemed to indicate it was on the wrong side of the fault. Pagenkopf, in southern Bexar, after working for more than a month with fishing jobs and lots of trouble, is whipstocking out in No. 1 Goeth and will pass up the gas showing in the Taylor marl about 2,000 feet and go down for an Edwards lime test.

Guadalupe County

South of Seguin in Guadalupe County Potter and others are about ready to spud in No. 1 Greenwood. This is in a territory where there has been a lot of drilling in years past and many operators have been attracted by the geology and the evidence of faulted conditions and hence any test in that district is interesting and is watched closely.

Wildcat Operations in Southwest Texas

Week Ending November 25

Company, well, farm name, section and block—	Remarks:
ATASCOSA COUNTY	
E. O. Burton's No. 1 Blankenship, 1,470 ft. from NW line, 1,830 ft. from SW line of 320-ac. tract, in T. Orr Sur. No. 176	Rigged up.
Dan McMahan's No. 1 Smith & Mowinkle, 245 ft. from NE line, 2,300 ft. from SE line of Alexander, Crain, Harris & Brooks	T.D. 300 ft.; drlg.
BASTROP COUNTY	
Three Oil Co.'s No. 1 M. Ingram, 1,250 ft. from SW line, 940 ft. from SE line of tract in M. Morgan Sur.	Rigged up.
BEE COUNTY	
Dash Prod. Co.'s No. 1 Ruhmann, 535 ft. from W line, 150 ft. from N line of lease in J. M. Thurston Sur.	Drlg. below surface csg.
Elbert Jeanes' No. 1 G. L. Courtney, 1,600 ft. from E line, 330 ft. from S line of tract in F. A. Kerr Sur.	Moving in rig.
W. P. McLain's No. 1 Weiss, 400 ft. E of line between E. S. Price's Nos. 1 and 2 Weiss	T.D. 4,525 ft.; P.B. and whipstocked; will comp. as gasser in Pettus sand at 4,190 ft.
BELL COUNTY	
Gus Winston et al's No. 3 Warrick, 100 ft. N of James Scoggins' No. 1 Warrick, in Elijah Ingram Sur.	T.D. 1,775 ft. in wtr. sand.
R. S. Wilson's No. 1 Davenport, 300 ft. from W line, 700 ft. from S line of J. L. Herred Sur.	T.D. 1,235 ft.; standing.
BEXAR COUNTY	
C. I. Albertson's No. 2 C. Hoke estate, 675 ft. from E line, 250 ft. N of Medina River in Jose Maria Barrera Sur.	T.D. 1,015 ft.; drlg. shale.

(Continued on Page 76)

California Production Brought Under Allowable; Kettleman North Dome Field Cuts Output

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Nov. 27.—Crude oil production in California, due primarily to drastic curtailment in the Kettleman North Dome Field, was brought below the state's allowable for several days during the week. The substantial reduction in production of the North Dome Field reflects the desire of operators to limit production to the prescribed maximum. Schedules for November, due to a change in the method of allocating production, were not received until the month was well under way, with the result that operators have been obliged to effect a greater curtailment during the latter part of the month to bring the average to the quota of 31,103 bbls. per day. Before operators in the North Dome Field started cutting production on November 16, the field was producing 55,223 bbls. per day. On November 20 production of the North Dome Field had been reduced to 25,503 bbls., with the result state production was reduced from 466,998 bbls. to 434,045 bbls. per day.

Distribution of California's production quota for December will be predicated on the basis that will approximate the method used by the oil umpire in preparing the October schedules, with certain minor changes, in conformity with a decision of the Central Committee of California producers. In contrast with the method used during October, the December schedule will provide for an assignment of 25,000 bbls. per day to shut in wells that have been off production for a number of years and an additional 30,000 bbls. to be set aside for recently completed wells. A definite formula is being worked out in detail to take the place of the formula used under the supplemental code for November based on methods used heretofore by the oil umpire.

December Production Quota

Individual quotas under the new method will be worked out on a basis similar to that in use prior to November, although the distribution of quotas to shut in wells and the allocation of 30,000 bbls. per day to recently completed wells will result in a considerable change. During December, California's quota has been increased from 440,000 bbls. to 450,000 bbls. per day, with an optional withdrawal from storage of 15,000 bbls. per day. If major companies continue to waive their privilege of withdrawing oil from storage, and all indications point in this direction, the oil umpire will have 465,000 bbls. per day available for distribution among producers in December, compared with 455,000 per day during November. In addition to changing the curtailment formula, the Central Committee has eliminated an objectionable feature in the supplemental code relating to subsurface ownerships. This factor, which has resulted in considerable discussion, provided that "the principle that subsurface ownerships, as well as surface ownerships, have inalienable and inviolable rights of property must be recognized and furthered."

Preparation of the November schedules, in conformity with the supplemental oil code approved by Secretary Ickes, has brought to light some interesting information. The oil umpire's compilations show a total of 103,235 acres of proved oil land in the state, of which 67,350 acres are drilled and subject to drainage, 11,535 acres undrilled but subject to drainage and 24,350 acres of definitely proved oil land not yet drilled and not subject to drainage. The potential production of wells capable of producing was estimated at 1,111,480 bbls. per day, or an average of 70 bbls. per well per day. In addition, the oil umpire's engineers estimate the potential production of undrilled proved acreage at 908,500 bbls. per day, which increased the maximum potential output of the state to 2,019,980 bbls. per day, or almost sufficient to supply the daily requirements of the entire country.

A breakdown of potential production of producing wells shows San Joaquin Valley fields have slightly less than one-half of the state total with 530,110 bbls. per day divided between 9,169 wells, or an equivalent of 58 bbls. per well. Los Angeles Basin fields were given a potential daily output of 444,405 bbls., which when allocated to 5,201 wells is the equivalent of 85 bbls. per well per day. Potential production of Coastal district fields was estimated at 136,965 bbls. per day from 1,517 wells, or a daily average of 90 bbls. per well. The total depth of producing wells and wells capable of production during November approximated 41,916,878 feet, or 7,939 miles. This footage was compiled in conformity with provisions of the supplemental code, that the depth of producing wells should be considered an important factor in allocation of production. This vast amount of footage represented the total depth of 15,887 individual wells with an average depth of 2,638 feet. Of the 103,235 acres, or 161.3 square miles of proved oil land in California, 61,825 acres are in the San Joaquin Valley, 16,870 acres in the Coastal district and 24,540 acres in Los Angeles Basin.

Tideland Litigation

There was no change in the status of the litigation involving crooked hole drilling in the town lot area of the Huntington Beach Field during the week, although an agreement may be reached within a few days. The possibility of a temporary amicable adjustment lies in the fact that state officials have been endeavoring to devise means of enriching the state's treasury from oil royalties. Finance Director Vandegrift declared a few days ago that "it appears necessary, as a matter of good business to protect the state's oil and gas from waste and depletion and ill-advised overproduction which is decreasing gas pressure unnecessarily, to announce that in the event it becomes legally possible for me to deal with those who now have wells on or under tidelands, such dealings will be confined to wells already drilled or now being drilled. Furthermore, it has come to the attention of those responsible for enforcing the limitation of crude oil that the schedules are probably being exceeded and that summary action will be taken in the immediate future."

Hot Oil

When state officials instituted action in the Superior Court at Santa Ana several weeks ago to prevent production of oil and gas from beneath state tidelands, they are believed to have done so to prevent depletion and exhaustion of the oil and gas reserves beneath the tidelands involved. During recent weeks it has become evident state officials are chiefly interested in enriching the state treasury. Operators in the Huntington Beach town lot area are entitled to a definite expression of opinion with respect to the procedure contemplated by state officials. These operators have signified their willingness of recompensing the state for oil produced and pay the state a stiplated royalty on future production. With but a few exceptions, these operators will likewise agree to conform with curtailment requirements.

Uncertainty as to the intentions of state officials has led to unethical practices both in the production and sale of crude oil. This unfavorable condition is indirectly responsible for the costly gasoline price war which was precipitated in California a few weeks ago and is attributed by operators to the fact that producers in the town lot area of Huntington Beach are selling crude at a price substantially below posted schedules. The sale of this hot oil to a few small refiners at cut rate prices is due to a combination of causes. Major companies are rather reluctant to purchase crude oil produced from beneath state tidelands to avoid possible litigation and several operators have consequently started dumping crude oil to safeguard their interests. It is the consensus no permanent relief can be anticipated until tideland litigation is brought to a conclusion.

Huntington Beach

Ambassador Oil Co., subsidiary of Wilshire Oil Co., completed No. 8-A Huntington flowing 2,790 bbls. of 24.3 gravity oil per day in the town lot area early in the week. It was bottomed at 4,600 feet and finished with a 5-inch water string cemented through perforations at 4,050 feet. Ocean Front Oil Co.'s No. 1, bottomed at 4,800 feet and finished with an 8⅝-inch water string landed and cemented at 4,002 feet, was recompleted flowing 2,932 bbls. of 26.1 gravity oil per day. This well was returned to production after the hole had been finished with a 5¾-inch liner carrying 630 feet of perforated. Wilshire Oil Co. is rigging up three new wells for early work in the town lot area.

Matilda Shallemiller, who holds a tideland drilling permit off the Huntington Beach Field, filed suit in the Superior Court at Santa Ana a few days ago to prevent termination of the drilling permit by state officials. Superior Judge Allen issued a temporary restraining order preventing termination of the permit and ordered the defendants, W. S. Kingsbury, chief of the division of state lands, and R. A. Vandegrift, director of department of finance, to show cause why a permanent injunction should not be issued. The plaintiff contends drilling operations have been unavoidably delayed due to litigation involving the areal extent of the lease. This tideland drilling permit is the only valid permit issued by the state in the Huntington Beach Field and may prove of considerable value if the permittee is granted sufficient time to proceed with exploitation.

Kettleman Hills

U. S. District Judge McCormick has taken under advisement a suit, originating as a test case, which may settle litigation affecting the right of homesteaders to retain possession of land they filed on in the Kettleman Hills and to be remunerated or collect damages from present holders of government leases. This suit will undoubtedly be carried to the U. S. Supreme Court. It was instituted some time ago by Jean Bourdieu, a French Basque sheep raiser, who homesteaded 320 acres of land in the Kettleman Hills district. According to testimony presented, the plaintiff began herding his flocks in the Kettleman Hills in 1914 and homesteaded there in 1919.

The principal question which Judge McCormick is to rule upon is whether, under Section 20 of the Federal Oil Leasing Act of 1920, the Government had the right to make a lease to the defendants or whether Bordieu possesses the sole claim to the acreage in his homestead rights. During his administration, President Taft withdrew from entry lands in the public domain for forestry and other governmental purposes. The land involved in this test suit, prior to the withdrawal under an executive order

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	Nov. 11		Nov. 4			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic—						
Crude oil	.....	.....	.....	.....	.....	116,812
Fuel oil	655,050	93,579	200,481	28,640	3,143,201	.....
Diesel and gas oil	26,489	3,784	.....	.....	1,227,048	946,251
Gasoline	181,821	25,974	385,233	55,077	9,716,952	6,991,755
Kerosene	80,035	11,434	79,410	11,344	906,294	177,062
Foreign exports—						
Crude oil	115,493	16,499	.....	.....	6,338,143	7,163,597
Fuel oil	84,916	12,131	30,371	4,339	6,767,495	7,053,462
Diesel and gas oil	.....	.....	17,171	2,453	2,854,889	2,248,511
Gasoline	78,621	11,232	179,606	25,658	4,928,047	7,247,257
Kerosene	26,856	3,837	78,422	11,203	1,726,664	2,568,204
Naphtha distillates	.....	.....	.....	.....	.....	120,075
Coastwise-domestic—						
Crude oil	.....	.....	.....	.....	5,891,821	12,449,986
Fuel oil	194,210	27,744	267,919	38,274	9,055,750	10,553,360
Diesel and gas oil	.....	.....	8,547	1,221	930,262	1,155,503
Gasoline	53,461	7,637	264,975	37,854	10,872,157	13,198,535
Kerosene	8,849	1,264	3,517	502	171,029	142,730
Naphtha distillates	.....	.....	.....	.....	27,651	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal domestic—						
Diesel and gas oil	.....	.....	.....	.....	603,697	650,980
Gasoline	.....	.....	.....	.....	804,548	1,070,406
Kerosene	.....	.....	.....	.....	482,430	152,611
Lubricants	.....	.....	.....	.....	33,934	31,804
Foreign exports—						
Crude oil	77,775	11,111	.....	.....	1,696,661	889,922
Fuel oil	25,108	3,587	101,383	14,483	1,770,910	904,079
Diesel and gas oil	.....	.....	.....	.....	907,646	687,142
Gasoline	85,475	12,211	72,800	10,400	3,541,062	3,464,651
Kerosene	20,635	2,948	.....	.....	861,860	966,995
Lubricants	8,850	1,264	4,404	629	115,977	30 094
Coastwise-domestic—						
Fuel oil	77,402	11,057	236,135	33,734	3,271,804	2,620,090
Diesel and gas oil	13,104	1,872	.....	.....	202,427	330,118
Gasoline	90,064	12,866	100,212	14,316	3,659,141	3,266,086
Kerosene	.....	.....	.....	.....	98,185	116,953
Lubricants	.....	.....	.....	.....	2,751	.....

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of President Taft, was included in the order but Bordieu had already homesteaded it and was seeking his patent under the Homestead Act. Defendants in the suit are Pacific Western Oil Co., Kettleman Oil Corp., Kettleman North Dome Association, T. C. Crum, Frank Kennedy, C. G. Smith, F. R. Kenney, Olen Lane, M. H. Goode, R. H. Collom and a number of others.

Two new wells were added in the Kettleman North Dome Field during the week and a check of development under way indicates the probable completion of several more before the close of the year. Standard Oil Co. finished No. 65-1-P, flowing 5,690 bbls. of 35.6 gravity oil per day. This new well, bottomed at 8,576 feet, showed a casing pressure of 930 pounds and produced 4,100,000 feet of gas per day. The Kettleman North Dome Association completed No. 38-34-J with an initial of 1,054 bbls. of 37.1 gravity oil and 1,100,000 feet of gas. The initial daily production of this well, which was finished after being plugged back from 8,819 feet to 8,560 feet, does not represent the well's maximum potential as it was brought in under control. Several additional wells are being rigged up for early work in the North Dome. Kenda is expected to start drilling operations shortly on No. 54-28-J, 61-30-J and 72-2-P, while Standard is making preparations to start drilling operations on No. 74-19-J, No. 4-27-J, No. 58-27-J and No. 2-35-J. North Kettleman Oil & Gas Co. is sidetracking the fish in No. 1 Lillis-Welsh, the deep test in the extreme western part of the field, but it will probably be several weeks before the bit reaches or approaches the original depth of 10,944 feet.

Mountain View

Hogan Petroleum Co. has completed its second producing well in the Mountain View Field of Kern County, but this project, No. 2 Wharton, bottomed at 6,097 feet with an 8⅝-inch water string landed and cemented at 6,027 feet, failed to register an initial daily production comparable to the output of No. 1 Wharton. Hogan Petroleum Co.'s new well appears to be a commercial producer, however, as it has shown a settled production of 410 bbls. of 34.1 gravity oil per day. Mohawk Petroleum Co.'s No. 2 Hood, finished a few weeks ago at 5,672 feet, is holding up in good shape as current production approximates 385 bbls. of 27.2 gravity oil per day. Shell's No. 2 Porter Day is flowing at the rate of 65 bbls. per day from 5,838 feet but is a distinct disappointment. Bankline Oil Co., following the failure to develop commercial production in No. 1 Symons last week, is rotating at 6,050 feet. This well, approximately 7,000 feet southeast of Hogan Petroleum Co.'s discovery, looked rather promising for a time but failed to show commercial production when put on test.

Honolulu Oil Corp. is expected to resume production activities in the Round Mountain Field of Kern County in the immediate future, due to the inability to transfer its allotment in this field to some other area. Under the supplemental code of October 20, 1933, Honolulu could have transferred its Round Mountain allowable to Midway-Sunset and permitted its wells in the former field to remain suspended. In conformity with provisions of the code to be used in the allocation of production during December, operators will not be allowed to transfer quotas from one field to another. Honolulu Consolidated has therefore decided to resume activities on December 1 and will immediately resume drilling. Honolulu has nine wells capable of producing in the Round Mountain Field and contemplates additional drilling on the Douglas, Lowry, Matthews, Sheehan and Tibbett leases. The recent completion of a new well by California Western Oil Co. and resumption of production operations by Shell on the Jewett and Freeman leases makes it necessary for the Honolulu to resume work.

Lost Hills-Belridge

Belridge Oil Co. finished the first well in the Lost Hills-Belridge district in several months when No. 48-27 was put on a production test early in the week. Bottomed at 5,482 feet and finished with a 6⅝-inch liner including 396 feet of perforated, it is flowing a little better than 1 bbl. of oil for each foot of hole drilled. During the initial 24-hour test this new well, finished in the Temblor, produced 5,660 bbls. of 39.9 gravity oil and 3,933,000 feet of gas per day. Associated has not yet succeeded in recompleting No. 4 Reward in the North Belridge Field, although gas pressure on the casing approximates 550 pounds. Continental Oil Co.'s No. 2 Result in this field has failed to come up to expectations after the hole had been plugged back from 5,544 feet to 5,526 feet, as the output is cutting approximately 50 per cent.

In the South Belridge Field of Kern County, General Petroleum has not yet drilled entirely through the brown shale in No. 1 Berry, despite the bit is down 9,750 feet. In the Lost Hills Field, Associated Oil Co. has cored approximately 40 feet of oil sand in No. 1 Williamson at 6,370 feet and may conduct a test if any additional thickness of oil sand is encountered. Associated is drilling this outpost as a deep test in conjunction with several other operators to determine the possibility of developing deeper production. In the Mount Poso Field of Kern County, General Petroleum completed No. 37 Heisen at 1,975 feet and this new well registered an initial daily production of 335 bbls. of 16.3 gravity oil. In addition to completing this well, General Petroleum, a subsidiary of Socony Vacuum, spudded in No. 46 Heisen and should have it tanking oil within 15 days. Texas Co. recompleted No. 2-4 Glide in Section 15-27-28 after redrilling and deepening the hole to the second Vedder zone. This well, bottomed at 1,797 feet, was finished with an 8⅝-inch combination string cemented through perforations at 1,648 feet and including 507 feet of 6⅝-inch perforated pipe. Upon being returned to production it tanked 880 bbls. of 16.5 gravity oil during the initial 24-hour test.

Milham Exploration Co. is building rig for a new well to be drilled in the Buttonwillow gas field of Kern County. Milham's new test in Section 6-28-23 is on property subleased from Lincoln Drilling Co. Ohio Oil Co. is making normal footage in No. 1 K. C. L., a wildcat in the extreme eastern end of Buena Vista Lake in Kern County, but it is not yet deep enough to pick up the pay.

Ventura Avenue

According to an opinion of F. W. Hertel, petroleum engineer of Associated Oil Co., the oil and gas reserves of the prolific Ventura Avenue Field have not been half exhausted to date after a drilling and production program extending over 20 years. This testimony was given in Superior Judge Ames' court. Hertel estimated that approximately 300,000,000 bbls. of oil would be produced by the Ventura Avenue Field and that approximately 100,000,000,000 feet of gas would be produced during the productive life of the field.

Associated completed No. 132 Lloyd in the Ventura Avenue Field early in the week, and this new well, finished at 6,697 feet, was brought in flowing 450 bbls. of 28.1 gravity oil and 240,000 feet of gas. Production of this well was still showing a rather large cut late in the week and may require corrective work before being considered a commercial producer. General Petroleum made another production test on No. 15-A Barnard but this hole, plugged back by stages from 9,000 feet to 8,416 feet, is still showing a production with a rather high water cut. The production test conducted early in the week showed 2,080 bbls. of 29.1 gravity oil cutting 28 per cent. In the Rincon Field, Richfield Oil Co.'s No. 3 Hobson State was returned to production flowing 30 bbls. per hour after the hole had been cleaned out to 2,581 feet preparatory to being deepened. The well subsequently sanded up and if the company succeeds in recompleting it flowing anywhere around 30 bbls. per day, it will undoubtedly be allowed to produce instead of being redrilled and deepened. In the San Miguelito Field, Continental Oil Co.'s No. 2 Grubb came in flowing after the 7-inch had been reperforated at 7,340-7,580 feet and produced 635 bbls. of exceptionally clean 31.3 gravity oil during the 24-hour test.

Long Beach

Several wells were put on production in the Long Beach Field of Los Angeles Basin, although none registered large production. Rio Grande Oil Co. recompleted No. 3-B Municipal pumping 140 bbls. of 26.4 gravity oil after the hole had been cleaned out to 4,856 feet and finished with a 4½-inch liner carrying 700 feet of perforated. Vesta Petroleum Co. recompleted its No. 1 Signal after plugging back from 6,970 feet to 4,887 feet, and it was returned to production pumping 95 bbls. of 25.2 gravity oil per day. Fairchild & Mitchell's No. 1 Lieberman, another reconditioning job, was returned to production pumping 75 bbls. per day after the hole had been plugged back from 6,170 feet to 4,523 feet. Beach Petroleum Co.'s No. 3, a new well, was completed at 4,682 feet and showed an initial daily production on the beam of 170 bbls. Republic Petroleum Co. recompleted its No. 3 Signal which was returned to production pumping 375 bbls. of 27.1 gravity oil from 5,120 feet.

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well location—	S.T.R.	Depth	Status:
Palm Ridge Oil Co., No. 1 Palms, Los Angeles Co.	2- 2-15	7,150	suspended
Clayton, G. L., No. 1 Clearwater, Los Angeles Co.	31- 3-12	921	sd. sh. drilling
Pacific Gulf, No. 1 Athens, Los Angeles Co.	19- 3-13	6,034	suspended
Pacific Dev. Co., No. 1 Wilmington, Los Angeles Co.	16- 3-13	901	cleaning out
Sunrise Pet. Co., No. 1 Dominguez, Los Angeles Co.	3- 4-13	5,250	suspended
Kelly & Son, No. 1 Torrance, Los Angeles Co.	7- 4-13	2,401	sd. sh. drilling
Nudson, T. T., No. 1 Inglewood, Los Angeles Co.	17- 2-14	rig	rigging up
Oakes & Mead, No. 1 Lyndwood, Los Angeles Co.	31- 2-12	4,940	suspended
Celito Oil Co., No. 1 Monterey Park, Los Angeles Co.	25- 1-12	5,319	plug 5,306
Community Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	5,281	suspended
Universal Consd., No. 2 Montebello, Los Angeles Co.	5- 2-11	3,490	sd. sh. drilling
Universal Consd., No. 3 Montebello, Los Angeles Co.	5- 2-11	3,572	sd. sh. drilling
Midfield Oil Co., No. 1 Whittier, Los Angeles Co.	19- 2-11	rig	rigging up
Signal Pet., No. 1 Puente, Los Angeles Co.	14- 2-10	4,908	cleaning out
Recovery Oil Co., No. 1 Sunset Beach, Los Angeles Co.	16- 5-11	3,400	suspended
Willetts Pet., No. 1 Saugus, Los Angeles Co.	35- 5-16	2,074	cleaning out
Alpha Oil Co., No. 1 Calabasas, Los Angeles Co.	22- 1-18	1,317	suspended
Marble, Willard, No. 1 Van Nuys, Los Angeles Co.	6- 2-16	2,760	suspended
Plymouth Oil Co., No. 1 West Coyote, Los Angeles Co.	24- 3-11	5,507	prod. test
Black Eagle Oil Co., No. 1 Huntington, Orange Co.	tideland	1,570	suspended
Nuoil Co., No. 1 Newport, Orange Co.	29- 6-10	5,090	cemented
Mineral Exploration, No. 1 Capistrano, Orange Co.	8- 8- 7	4,302	suspended
Saddleback Oil Co., No. 1 El Tora, Orange Co.	3- 6- 7	80	suspended
Tehama Pet., No. 1 Santa Ana Canyon, Orange Co.	33- 3- 8	mtl.	building rig
Placentia Dev. Co., No. 1 Placentia, Orange Co.	31- 3- 9	3,215	milling
Rubens, Sy., No. 1 Atwood, Orange Co.	19- 3- 9	3,015	to set pipe
Bartholomae Oil Co., No. 1 Coyote, Orange Co.	22- 3-10	602	sd. sh. drilling
Spindle Top Oil Co., No. 1 Salton Sea, Riverside Co.	25- 7-10	3,590	suspended
Great American Pet., No. 1 Chino, San Bernardino Co.	18- 2- 8	2,645	suspended
Great American Pet., No. 2 Chino, San Bernardino Co.	18- 2- 8	2,070	hd. sd. drilling
McCarthy, C. F., No. 1 Chino, San Bernardino Co.	14- 3- 6	803	suspended

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well location—	S.T.R.	Depth	Status:
General Pet., No. 9 Capitan, Santa Barbara Co.	32- 5-30	mtl.	bldg. rig.
Monterey Expl., No. 2 Point Concepcion, Santa Barbara	33- 5-33	mtl.	bldg. rig
Lincoln Drlg. Co., No. 3 Summerland, Santa Barbara Co.	21- 4-26	2,603	suspended
Dietzman, J., No. 1 Summerland, Santa Barbara Co.	16- 4-26	rig	rigging up
Meganos Oil Co., No. 1 Purisima, Santa Barbara Co.	28- 8-24	3,000	suspended
Barnsdall-Rio Grande, No. 3 Doty Elwood, Santa Barbara	15- 4-29	4,400	sd. sh. drilling
Signal O. & G. Co., No. 2 Elwood, Santa Barbara Co.	tideland	5,016	fishing
Cuyama Oil Co., No. 1 Cuyama, Santa Barbara Co.	12-10-27	3,950	suspended
Indian Pet., No. 1 Shude, Ventura Co.	tideland	3,904	sd. sh. drilling
Woodrow Pet., No. 1 Rincon, Ventura Co.	4- 3-24	7,612	suspended
Richfield Oil Co., No. 3 Rincon, Ventura Co.	17- 3-24	2,580	cleaning out
Hancock Oil Co., No. 1 Fillmore, Ventura Co.	13- 4-19	3,075	sd. sh. drilling
Oil Ridge Oil Co., No. 1 Fillmore, Ventura Co.	1- 4-19	rig	rigged up
Driggs Pet., No. 1 South Mountain, Ventura Co.	17- 3-20	2,310	test W.S.O.
Kneiper & Atha, No. 1 Bardsdale, Ventura Co.	7- 3-19	1,360	fishing
Williamson & Donaher, No. 1 Simi, Ventura Co.	36- 3-18	790	suspended
Dabney, H. R., No. 1 Simi, Ventura Co.	22- 2-18	1,091	suspended
C. C. M. O., No. 1-A San Miguelito, Ventura Co.	23- 4-24	4,166	suspended
Midlands Pet., No. 1 Ojai, Ventura Co.	9- 3-23	7,830	suspended
Layng & Jacobson, No. 1 Shiells, Ventura Co.	32- 4-19	rig	rigging up
Wilshire Oil Co., No. 1 Sulphur Mountain, Ventura Co.	20- 4-21	2,198	suspended
Kirk, W. A., No. 1 Sulphur Mountain, Ventura Co.	21- 4-21	1,114	br. sh. drilling
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	22- 4-21	1,715	br. sh. drilling
Las Posas Pet., No. 1 Las Posas, Ventura Co.	22- 3-20	5,000	cleaning out
International Oil Developers, No. 1 Conejo, Ventura Co.	33- 2-20	2,910	hd. sd. drilling
Hub Pet. Co., No. 1 Gould Hills, Kern Co.	22-29-21	6,840	suspended
Milham Exploration Co., No. 24 Buttonwillow, Kern Co.	6-28-23	mtl.	building rig
Casa Mira Oil Co., No. 1 Belridge, Kern Co.	29-28-20	4,982	suspended
General Pet., No. 1 Belridge, Kern Co.	30-28-21	9,750	sd. sh. drilling
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	17-26-18	3,270	suspended
Lincoln Pet., No. 1 Devils Den, Kern Co.	10-25-18	3,173	suspended
Hanna, Tom, No. 1 Devils Den, Kern Co.	25-25-18	3,516	suspended
Pyramid Hills Oil Co., No. 1 Devils Den, Kern Co.	24-25-18	4,140	suspended
Fowler, F., No. 1 Blackwell Corner, Kern Co.	15-26-19	3,170	suspended
Associated, No. 1 Lost Hills, Kern Co.	2-26-20	6,375	sd. sh. drilling
Howells Bros., No. 1 Round Mountain, Kern Co.	32-28-29	1,470	br. sh. drilling
Keno Pet. Co., No. 1 Lerdo, Kern Co.	14-29-27	4,531	suspended
Carribou Record Oil Co., No. 1 Kern Front, Kern Co.	11-28-27	rig	rigged up
Bankline Oil Co., No. 1 Kern Front, Kern Co.	28-28-27	....	location
Ohio Oil Co., No. 1 Buena Vista Lake, Kern Co.	31-31-26	3,200	sd. sh. drilling
Caravel Pet. Co., No. 1 Edison, Kern Co.	19-30-30	1,801	suspended
Union Oil Co., No. 1 Union Avenue, Kern Co.	15-30-28	5,260	sd. sh. drilling
Alta Oil Co., No. 1 Union Avenue, Kern Co.	6-30-28	4,598	sd. sh. drilling
Shell Oil Co., No. 1 Mountain View, Kern Co.	29-30-29	5,910	suspended
Shell Oil Co., No. 2 Mountain View, Kern Co.	29-30-29	5,863	testing
Hogan Pet. Co., No. 2 Mountain View, Kern Co.	29-30-29	6,097	500 B/D
Hogan Pet. Co., No. 3 Mountain View, Kern Co.	29-30-29	rig	rigging up
Bankline Oil Co., No. 1 Mountain View, Kern Co.	4-31-29	6,050	sd. sh. drilling
Barnsdall Oil Co., No. 1 Mountain View, Kern Co.	31-30-29	6,444	suspended
Labadie, E. L., No. 1 Mountain View, Kern Co.	29-30-29	....	material
Long Beach Pet., No. 1 Mountain View, Kern Co.	29-30-29	5,096	redrilling
Mohawk Pet., No. 3 Mountain View, Kern Co.	30-30-29	5,557	to set pipe
Mohawk Pet., No. 4 Mountain View, Kern Co.	30-30-29	rig	rigging up
Comanche Oil Co., No. 1 Comanche, Kern Co.	15-32-29	rig	rigged up
Badger Oil Co., No. 1 Wheeler Ridge, Kern Co.	31-11-19	4,483	cleaning out
Gatton & Luethe, No. 1 Madera, Madera Co.	32-10-17	3,020	suspended
Russ Oil Synd., No. 1 Kingsburg, Fresno Co.	20-12-11	3,900	cleaning out
Bergman, Harry, No. 1 Kingsburg, Fresno Co.	19-12-11	4,370	fish D/P
Graham & Loftus, No. 1 Raisin City, Fresno Co.	20-15-18	5,906	suspended
Emerich Oil Co., No. 1 Mendota, Fresno Co.	35-13-13	3,320	suspended
Western Gulf, No. 1 S. P., Fresno Co.	3-17-15	6,570	sd. sh. drilling
Roscoe, D. L., well No. 1, Fresno Co.	36-16-14	rig	suspended
Hogan Pet. Co., No. 1 Joaquin Ridge, Fresno Co.	28-20-16	6,605	suspended
Superior Oil Co., No. 1 Jacalitos, Fresno Co.	6-22-16	6,600	hd. sh. drilling
Kent & McDonald, No. 1 Carrizo Plains, San Luis Obispo	3-32-22	3,830	suspended
Willet Oil Co., No. 1 Cholame, San Luis Obispo Co.	10-25-15	rig	rigging up
Guess, E. B., No. 1 Corcoran, Kings Co.	7-21-21	6,197	suspended
Brown, A. M., well No. 3, Kings Co.	10-23-19	1,205	suspended
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-23-17	6,873	suspended
Dudley Dome Oil Co., well No. 2, Kings Co.	9-23-20	370	cemented
Magee & Stone, No. 2 Alpaugh, Kings Co.	33-21-22	3,149	suspended
Douglas, J. M., well No. 1, Monterey Co.	36-22- 9	mtl.	building rig
Na-Pa Oil Co., No. 1 Griffith, Napa Co.	7- 8- 3	3,750	suspended
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	5- 2-10	4,760	hd. sh. drilling
Pacific Northern Oil Co., No. 1 Guinda, Yolo Co.	23-12- 3	5,320	cemented
Buttes Oilfields Co., No. 1 Marysville, Sutter Co.	35-16- 1	2,731	gas—shut in
Buttes Oilfields Co., No. 2 Marysville, Sutter Co.	35-16- 1	4,136	sd. sh. drilling
Tehama Pet. Co., well No. 1, Glenn Co.	4-22- 5	4,696	redrilling

Michigan Record Well Estimated 20,000 Bbls.; State Adds 37,805 Bbls. During the Week

By PAUL A. ELLIOTT
Staff Correspondent, Michigan Fields

MUSKEGON, Mich., Nov. 25.—Michigan's daily potential oil flow jumped to about 115,000 obls. this week, or four times the new state allowable of 29,000 bbls. a day, a reduction of 1,000 bbls., when four large new wells including the state's record producer for all time were completed in the flush Porter Township Pool of the Mount Pleasant area. Two other oil wells were completed.

Pure Oil Co.'s No. 2 W. W. Hoyt, NW SE SE Section 17-13n-1w, broke all Michigan records when it blew out an oil saver from the control head and ran wild for two hours at a rate giving the well an estimated potential of more than 20,000 bbls. a day.

No. 2 Hoyt put 1,200 bbls. into the field tanks in two hours and spread about 1,000 bbls. additional over the lease before drillers succeeded in cutting the cable and closing the master gate, bringing the big gusher under control. It will be shut in for 15 days under rules of the Michigan Oil Regulatory Board. The new well has double the initial of any other completion in the state.

Three other new producers, ranging from 4,000 to 7,000 bbls. a day initial and rivaling several former large producers in Porter Township, also were completed this week for an aggregate of more than 16,000 bbls., making a total of 36,555 bbls. of new initial in these four wells. Two new completions in Lee Township, Midland County, and Denver, Isabella, and increases in three Porter Township wells over estimated initials last week, or by acid treatment, added another 1,300 bbls. of new production for a week's total of 37,805 bbls.

The added flow represented more than a 40 per cent increase in the state's potential which previously had reached a high point of about 80,000 bbls. a day. In the face of this tremendous increase and despite a formal plea last week for an increased allowable, the Michigan Petroleum Proration Committee was notified by the Federal oil administrator of the cut in allowable from 30,000 bbls. in force since September 1 to 29,000 bbls. a day effective December 1.

To meet the new allowable the state proration committee announced another cut in the proration schedule to 15 per cent of all production of any wells over the 100-bbl. minimum effective immediately.

More Than 50 Wells Drilling

More than 50 wells are now drilling in the proved Porter Township Pool alone in addition to several likely producers in Vernon Township, Isabella County, West Branch Township, Ogemaw County, and the possibility of a new pool in Oregon Township, Lapeer County, where a show of oil was struck this week in a wildcat test.

Michigan operators are still hoping for favorable action on a petition for an increased allowable filed with the regional committee in Findlay, Ohio, pointing out that several other areas east of the Mississippi River have been allowed a much greater percentage of their potential and arguing that the Michigan market for petroleum products is one of the largest in the Middle West.

The second largest of four new Porter Township wells was Theodore Oil Co.'s No. 3 J. W. Campbell, SW SW NE Section 17, which made 370 bbls. an hour for an initial of 7,085 bbls. from the Dundee pay sands.

Pure Oil Co.'s No. 3-A F. W. Howard, NE SW SE Section 17, made 834 bbls. in four hours and was rated at 5,470 bbls. a day in the Dundee at 3,414 feet. Permit for this well was issued early this month and the well completed in record time on a lease which also boasts two other producers brought in with an aggregate of 15,000 bbls. initial.

Pure company's No. 1 F. E. Rosa, NW SW NW Section 21, was the fourth big Porter producer estimated at 4,000 bbls. a day topping the Dundee at 3,375 feet and drilling to a total depth of 3,426 feet.

Two wells drilled in last week with estimated initials of 750 and 100 bbls., respectively, actually made 1,600 and 200 bbls., an increase of 950 bbls. over the estimates.

Davis Oil Co.'s No. 3 H. Neitzke, SW NW NW Section 21, Porter Township, flowed 1,600 bbls., or 850 bbls. more than the estimate of 750 bbls., topping the Dundee at 3,375 feet and the pay at 3,418 feet. W. J. Wilson, trustee's No. 2 William N. Carter, SW NE SW Section 18, Porter Township, made 200 bbls. a day, or double the estimate, topping the Dundee at 3,401 feet, and the pay at 3,419 feet.

W. J. Wilson, trustee's No. 1 Hattie M. Hodge, in Section 18, was increased from an initial of 35 bbls. in the Dundee to 240 bbls. a day, adding about 200 bbls. after acid treatment.

Two small completions, one in the Leaton Pool, in Denver Township, Isabella County, and the other in Lee Township, Midland County, near the Greendale-Lee Township line, added 150 bbls.

Michigan Gas & Oil Co.'s No. 4 Marthey, NE SW SE Section 19-15n-3w, Denver-Isabella, made 100 bbls. a day and Columbia Oil & Gas Co.'s No. 3 F. H. Taulker, NE NW SW Section 7-14n-1w, Lee-Midland, made 50 bbls. a day.

Pure's No. 2-A Ira E. Bond, NW NW NE Section 18, Porter Township, struck the Dundee pay sands at 3,425 feet and was drilling in as the week closed.

Oil flowed from the upper Traverse pay sands in the Gordon Oil Co.'s No. 4 Walter J. Diebel, SW SE NW Section 18, Porter Township, but driling continued to the Dundee. Pure's No. 1 W. Neitzke, SE NE SE Section 21, Porter Township, also was driling in the Traverse at about 3,000 feet with a hole partly filled with oil.

Three other Porter Township wells neared completion in the Dundee while two others were drilling in the Traverse.

Two wells drilling in the Dundee formation in Vernon Township, Isabella County, were Tri Oil Co.'s No. 2 Icem C. Slentz, NW NE SE Section 22-16n-4w, which topped the Dundee limestone at 3,734 feet and Mammoth Petroleum Co.'s No. 2-A A. Thayer, SE NE NW Section 23.

Two wells driling in Greendale Township, Midland County, also neared completion in the Dundee.

Lapeer County Showing

A show of oil was encountered in the Dundee formation at a depth of 2,335 feet, 40 feet in, by Kehlet and Flynn in their No. 1 Herbert Branick in Section 9, Oregon Township, Lapeer County, as the most important wildcat development of the week. Light shows also were reported in the Berea and Traverse formations in this well about 100 miles east and south of Mount Pleasant and about 60 miles north of Detroit. The well was started in August with V. M. Voorhees, of Muskegon and Mount Pleasant, as contractor and Cecil Young as driller. It will be drilled deeper and may be treated with acid.

Ogemaw County

Two more wildcats in Mills and West Branch Township, Ogemaw County, failed to strike oil or gas in the upper Traverse and were drilling deeper to test the Dundee.

C. A. Perry's No. 1 Wobig heirs, SW SW NE Section 6-21n-3e, Mills Township, struck water 30 feet in the Traverse limestone, It is 3½ miles southeast of Alvin Webber's No. 1 Wilcox, discovery Traverse well in Section 34, West Branch Township.

George Elliott's No. 1 Meir, SW SW SW Section 22-22n-2e, West Branch Township, had no show at 1,820 feet, or about 100 below production in the discovery, drillers giving up hopes of production in the upper Traverse but continuing to the Dundee about 400 more feet of drilling. It is about 1½ miles northwest of the discovery.

W. J. Sovereign's No. 1 Griffin, NW NW SW Section 29-22n-2e, West Branch Township, nearly 3 miles northwest of the discovery, also is drilling to the Dundee after failing to strike oil in the Traverse.

Ira Scheifley's No. 1 Gray, Section 23, West Branch Township, and Theodore Oil Co.'s No. 1 Ogemaw Country Club, SE SW SE Section 20, West Branch, about 3 miles east of the Scheifley-Gray well, were nearing the upper Traverse drilling at more than 1,600 feet as the week closed. The Scheifley is 2½ miles

Test in Cambria County, Pennsylvania, Reported Making Rapid Progress

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Nov. 27. — The test of the White Mill Oil & Gas Co. on the Adams estate on Route 422, between Belsano and Strongstown in Cambria County, Pennsylvania, is making rapid progress. About 550 feet of hole was made in the week, bringing the total to 3,718 feet. The test is interesting as there is little with which to correlate the various formations and as it is being drilled in untested country.

The log of the well to date follows: The Coal was passed through at 435 feet; 435-485 feet, sand with a little gas; 485 feet, coal; 635-905 feet, sand with a little gas; casing was run to a depth of 923 feet; 935-1,190 feet, hard sand; 1,190-1,215 feet, red rock; 1,215-70 feet, slate and shells; 1,270-1,308 feet, sand; 1,308-65 feet, slate; 1,365-1,400 feet, broken sand; 1,400-1,680 feet, slate, sand, shells mixed; 1,680-2,185 feet, red rock; 2,185-2,203 feet, hard sand; 2,203-35 feet, slate and shells; 2,235-70 feet, sand; 2,270-2,490 feet, pink rock; 2,490-2,540 feet, pink rock; 2,540-2,710 feet, shale and shells; 2,710-17 feet, sand; 2,717-2,817 feet, slate and shells; 2,817-50 feet, sand with about 15,000 feet a day of gas; 2,850-70 feet, sand; 2,870-2,910 feet, slate and shells; 2,910-30 feet, red sand and shells; 2,930-3,015 feet, slate and shells; 3,015-35 feet, red formation; 3,035-3,388 feet, slate and shells; 3,388-98 feet, white sand; 3,398-3,436 feet, mixed slate, shells, sand; 3,436-3,-578 feet, gritty lime; 3,578-3,718 feet, gritty lime hard. Drilling is being continued.

Completions in the lower eastern fields consisted of two gas wells, seven producers with an initial production of 114 bbls. and one dry hole. Most of the completions were in Southeast Ohio.

SOUTHEAST OHIO

Five producers and one dry hole was the total new work in Southeast Ohio. One is showing as a fair test in the shallow First Cow Run sand in Windsor Township, Morgan County. It was drilled by Charles Mosier and others on the Charles Yarnell farm in Section 1, and reached 555 feet. After shot it is showing for a 15-bbl. pumper.

In Athens County, on Hamley Run in Section 12, Waterloo Township, Henderson Oil Co. completed a test on the J. Young farm in the grit to a total depth of 1,072 feet. The top of the sand was at 1,064 feet and it produced only a quarter of a barrel the first day, natural. It will be abandoned.

In Coshocton County, Kundtz-Hulse, Inc., and others completed No. 3 on the R. L. McKee farm in Section 17, Perry Township. It was drilled in the Clinton sand at a depth of 3,065 feet and is showing for 25 bbls. a day after shot.

In Licking County Edward H. Everett Co. completed No. 5 on the Felix Claypool No. 2 lease in Section 7, Hanover Township, in the Clinton sand at 2,830 feet. It produced 40 bbls. the first day after shot. In Franklin Township, Lot 10, Wehrle Co. completed a test on the O. A. Kreager farm in the lime at 2,430 feet. After shot the well stood three days and then produced 46 bbls., the next day 21 bbls. and the day following, 8 bbls. It will be put to pumping and if the production continues to decline, it will be drilled to the Clinton sand.

In Medina County, E. R. Edson & Son Co. completed No. 37 on the Ed G. Miller farm, Tract 15, Lot 2, Chatham Township. It produced 2 bbls. a day after shot in the Berea grit at a depth of 505 feet.

WEST VIRGINIA

There were few completions in West Virginia and only two producers. One was the test of the Lewis and Litten Gas companies on the Connelly heirs farm in Murphy district, Ritchie County. It was drilled in the Salt sand and is producing about 10 bbls. a day. The other, No. 1 of Monroe and Laughlin on the J. E. Dye farm in Mannington district, Marion County, which was drilled deeper to 3,279 feet. The Thirty-foot sand was from 3,255 to 3,271 feet. It is showing for 2 bbls. a day from that depth.

In Calhoun County, Cain and Rothwell completed a second test on the Lee Roy Jones farm in Sheridan district. It was drilled in the Injun sand and is showing for a fair gas well.

In Ritchie County, Floyd Rexroad and others completed a test on the John V. Warner farm in Murphy district. It was

(Continued on Page 59)

northwest of the discovery. Two other Ogemaw tests have been started and a third is preparing to spud in.

Oceana County Test

The first test in Oceana County drilled through the upper Traverse limestone with a show of oil at 1,576 feet deep by Edward DuVall, pioneer Oceana County operator, in 1929 made several barrels an hour on the pump this week after acid treatment and was estimated good for 15 to 25 bbls. a day. It is on the Carrie E. Mears property SE NE Section 36-15n-19w, Golden Township, near Silver Lake, about 15 miles west of the Hart-Elbridge Township Pool in which 10 commercial producers have been drilled during the past year. It has been reopened by the Reed Oil Co., of Muskegon, for the Eureka Gas & Oil Co., which recently purchased an interest in the well from Mr. DuVall. Charles A. Witt of Muskegon, and the two Muskegon oil companies hold acreage nearby.

Three new tests in the proved Oceana Field are driving pipe, two located 66½ feet apart, and the third in Section 31, Elbridge Township, in which the discovery well was brought in more than a year ago by Mr. DuVall on the Oscar Weirich lease. Two wildcats, one 5 miles north of production and the other 5 miles southeast, also are drilling.

Thumb Section

Three wildcats in St. Clair and Sanilac Counties, or the Thumb section of Michigan north of Detroit, are reported plugged and abandoned. They are E. Brown Development Co.'s No. 1 Herdell, in Section 15, Argyle Township, Sanilac County, and F. W. Craft's No. 1 Richter in Section 19, Port Gratiot Township, St. Clair County, and John Blake, trustee's No. 1 Atkins, Section 13, Clyde Township, also St. Clair County.

Eaton County

Drilling of W. J. Bernier's No. 1 H. A. and N. D. Woodworth, NE SE SE Section 5-3n-4w, Benton Township, Eaton County, on a lease included in a block of 7,000 acres in Benton and Oneida Townships was started this week by a new syndicate including Charles Strange and James Bernier, of Clare, E. I. Adams of East Lansing, A. L. Lyons of Grand Ledge and E. J. Kaufman, of Fowlerville. The first test is about 5 miles south and 3 miles west of the village of Grand Ledge in the south central section of the state.

Osceola County

Sun Oil Co.'s No. 1 William Fleming, NE SE NW Section 5-17n-8w, Evart Township, Osceola County, also was started as a new central Michigan wildcat.

A rig has been erected on Frank A. Madigan's No. 1 Raycraft, Section 20, Pine River Township, Gratiot County, to be spudded soon.

In Montcalm County W. J. Wilson, trustee's No. 1 Beach, Section 17, Richland Township, was reported drilling at more than 500 feet while Daily Oil Corp.'s No. 1 Christensen, Section 10, Home Township, is shut down at 1,589 feet.

McClanahan Oil Co. has spudded in its No. 1 Brooks, SW SW SE Section 11, Mount Haley Township, Midland County, about 5 miles northeast of the Porter Pool.

Lawson Oil & Gas Co. set 8-inch casing in its No. 1 P. W. Atkinson, NE SW Section 26-15n-1e, Lincoln Township, Midland County. S. S. Bankle's No. 1 R. Farnsworth, NE NE NE Section 15-13n-2w, Jasper Township, Midland County, also has been started. L. G. Thompson has a rig up on his No. 1 Oliver, Section 18, Lee Township.

In Saginaw County, Hayden & Townsend's No. 1 Foy, Section 16, Richland Township, is driving pipe, while W. T. McKenna's No. 1 Rust, Section 2, Thomaston Township, has a rig up.

Of two wildcats in Porter Township, only one, O. H. O'Neal's No. 1 Caywood in Section 6, was drilling after setting 6-inch casing through the Marshall. J. Mark Harvey's No. 1 Messenger, Section 36, was still shut down at 3,372 feet.

McClanahan Oil Co. is moving in for its No. 1 David W. Frackleton, SE SE SE Section 18-18n-5w, Lincoln Township, Clare County, a new wildcat in this section for which a permit was issued nearly three months ago.

Permits

Six new permits, four for new wells in Porter Township, one in the Broomfield gas area and the other in the Austin Township, Mecosta County, gas field were issued by the State Conservation Department.

The four in Porter Township, Midland County, are: Pure Oil Co.'s No. 4 P. O. Mates, NE NW SE Section 22-13n-1w; No. 4 A. C. Wyant, NW SW SW Section 16; No. 1-B W. W. Hoyt, SW SW NW Section 21, and Stork Oil Co.'s No. 3 Jesse B. Richmond, SW NW SW Section 22. Pure also received a permit for its No. 1 Herman C. Lueder, C SE NE Section 10-14n-6w, Broomfield Township, Isabella County. The sixth permit was for James M. Taggart and others' No. 4 Robert S. Fish, C SE NE Section 4-14n-9w, Austin Township, Mecosta County, on which drilling has been started. It is about three-fourths of a mile north of the state's record gasser brought in recently as No. 3 Fish with an open flow capacity of 27,500,000 feet a day.

Completion in Wyandot County, Ohio, Field Is Reported Good for 200 Barrels Initial

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Nov. 27.—The best completion for the Lima Field was the Upper Sandusky Oil & Gas Co.'s No. 4 on the N. and H. Saltsman farm, Section 28, Crane Township, Wyandot County, reported good for 200 bbls. initial from the Trenton lime at 1,337-92 feet. Jones & Coyle's No. 7 on the Margaret Brillhardt farm, same section, produced 10 bbls. initial. Robert Kirk and others' test on the Joseph Coutard farm, Section 20, same township, was dry. Measa Oil & Gas Co. is due to complete its No. 2 on the Mary Sampson farm, Section 20, same township. Another well in the same township being drilled by Keiner and others on the Gotlieb Seiler farm, Section 34, is around 1,300 feet. Crane Township Oil & Gas Co. is drilling below 1,000 feet on the Francis Huffman farm, Section 27, same township. Pitt Oil & Gas Co. is shut down at 1,347 feet on the A. E. Myers farm, Section 3, same township. McPheron and others have a rig in for No. 1 on the Catherine Smalley farm, Section 3, same township. Upper Sandusky Oil & Gas Co. is drilling No. 3 Mary Loverick farm, Section 28, same township. Jones & Clyle have a rig on the Edith A. Swerline farm, Section 21, Tymochtee Township, same county. Newcomer and others are shut down at 1,100 feet on the W. H. Castanein farm, Section 11, Pitt Township, same county.

In Hardin County, Simms Oil & Gas Co.'s No. 1 on the Dougles Poe farm, Section 4, Roundhead Township, is a gas well at 1,365-77 feet.

In Seneca County, Tiffin Field, S. H. Curry's No. 2 on the Homer Sewald farm, Section 15, Hopewell Township, is a fairly good gas well. In Liberty Township, same county, Fred Keiner drilled in a gas well on the Charles Dumitz farm, Section 24, and Tiffin Industrial Gas Co. brought in a fair gas well in No. 1 on the Charles H. Fensel farm, Section 32, same township. R. E. Greene is drilling No. 3 on the T. C. and B. G. Shaull farm, Section 30, same township, and J. H. Murphy and others are drilling No. 1 on the Andrew Kemmit farm, Section 20, same township.

In Sandusky County, Scott Township, Charles W. Putman abandoned Nos. 2 and 4 on the Dora Allen Winchell farm, Section 31. B. F. Howey abandoned Nos. 1 and 5 on the William Myers farm, Section 19, same township, and North Ohio Oil Co. and others abandoned Nos. 13, 14 and 15 J. Bauman farm, Section 16, same township.

In Wood County, Montgomery Township, R. C. Williams abandoned Nos. 1, 2 and 3 on the Aaron Lesher farm, Section 21, and Nos. 1, 2, 3, 4, 5, 6, 7, 8 and 9 on the Graham farm, same section. In Freedom Township, August Bushman and others abandoned Nos. 2, 3, 4, 5 and 6 on the John Sieving farm, Section 21, and Nos. 1 and 2 on the Earl Diehl farm, same township. In Lake Township, same county, Lantz-Schulte and others abandoned Nos. 1, 2, 3 and 4 on the H. C. Michelson farm, Section 26, and Nos. 1 and 2 on the Fred Brandt farm, same section. R. M. Bell and others are drilling on the G. S. Baker farm, Section 1, Troy Township, same county.

In Hancock County, Bosse Brothers are drilling below 600 feet on the M. and H. Bosse farm, Section 18, Van Buren Township. Very little test work has been done in this township, where many years ago one of the largest initial wells found in the Lima Field was brought in.

CENTRAL OHIO

Fourteen completions were reported from the Central Ohio Field. In Medina County, E. R. Edson Sons Co.'s No. 23 on the Weideman farm, in Chatham Township, was dry, as was Curtis & Eakens' No. 10 on the Brown farm, same township. In Litchfield Township, same county, D. A. Lake's No. 10 on the P. and A. Weaver farm, Lot 1, was also dry.

One completion was reported from Lorain County, Ohio Fuel Gas Co.'s No. 1 on the Elmer G. Alexander farm, in Lot 86, a gas well at shallow depth. McMillan and others are drilling No. 4 on the Frank Kovarik farm, Lot 95, Eaton Township. In Ridgeville Township, Minor and others are drilling No. 3 on the Mathies Myers farm, Lot 32.

In Stark County, East Ohio Gas Co.'s No. 1 on the Charles Pontius farm, Section 11, Plain Township, is a gas well from the Clinton lime at 4,493 to 4,521 feet. Same company made a location for No. 1 on the Frank A. Goldsmith farm, Section 14, same township. Fulton Oil & Gas Co.'s No. 1 on the Grace B. Steele farm, Section 20, same township, is a gas well at 4,486-89 feet. Boettler and others' No. 1 on the Peter Henry farm, Section 17, is a gas well in the Clinton lime at 4,461-88 feet. Brendel Producing Co. abandoned its location on the Ben Christman farm, Section 5, same county.

In Belmont County, Bradfield and others' test on the H. E. and O. Kaiser farm, Section 20, Kirkwood Township, was dry. Ohio Fuel Gas Co.'s No. 1 on the M. L. Bell farm, Section 16, Union Township, is a gas well in the Maxon sand at 1,085 feet. In the same township, O. K. Oil & Gas Co. is drilling No. 2 on the John T. Murphy farm, Section 35, and R. W. Dunn and others are drilling No. 2 on the Thomas Tenley farm, Section 22.

In Guernsey County, Ferguson and others are drilling on the Fred Foraker farm, Section 20, Willis Township.

In Carroll County, Brendel Producing Co. is reported at 3,850 feet on the Whittaker Greer Fireproofing Co.'s land, Section 26, Brown Township.

Near Pay Sands

In Summitt County, Green Township, East Ohio Gas Co. is drilling below 3,800 feet in No. 1 on the Mrs. F. Snider farm, Section 30. Same company is drilling below 3,750 feet in No. 1 on the F. N. Steiner farm, Section 18, same township, and is getting ready to start No. 1 on the Racy farm, Section 30, same township. Wiser Oil Co. is starting No. 2 on the Dayton A. Doyle farm, Section 5, Springfield Township, same county.

In Ashland County, Ohio Fuel Gas Co. cleaned out No. 2 on the Nancy L. Welsh farm, Section 9, Green Township, and gave it a shot, making a light gas producer.

Brendel Producing Co. has a number of tests nearing the pay sand. They are: No. 1 on the W. J. Lynch farm, Lot 50, Deerfield Township, Portage County, below 4,635 feet; No. 2 Henry Huthmacher farm, Section 11, Jackson Township, Stark County, below 4,170 feet; No. 1 Cora L. Clay farm, Section 21, same township, below 3,900 feet; No. 2 J. H. McDowell farm, Section 16, same township, below 3,000 feet; No. 1 J. L. Wood farm, Section 9, same township, below 3,800 feet; Emos Mathie, No. 1 well, Section 8, below 235 feet.

Peiffer and others' No. 1 J. H. Schneider farm, Section 17, Plain Township, Stark County, is drilling below 4,220 feet. H. W. Hoover's No. 1 H. W. Hoover farm is below 4,300 feet. Hoover Development Co.'s No. 1 fee, in Section 8, same township, is below 3,300 feet. Cunningham Natural Gas Co.'s No. 3 John Marquardt farm, Section 9, same township, is below 2,700 feet, and its No. 1 Catherine Donnenwith farm, Section 22, same township, is below 2,600 feet, and its No. 2 Levi Stoner farm, Section 17, below 3,100 feet.

In Lorain County, shallow sand wells have been most sought after, but of late the drill is being sent down. Wittmer Oil & Gas Co. is drilling below 1,600 feet in No. 1 on the Philip Webber farm, Lot 83, Grafton Township, and in No. 1 on the George Myers farm, Lot 86, same township, is below 2,160 feet.

Gold Crown Oil & Gas Co. is cleaning out No. 3 on the George Horn farm, Section 21, Lake Township, Ashland County. Sisler and others are drilling No. 6 on the Eva M. Sisler farm, Section 22, Jackson Township, Stark County. Upham Gas Co. is drilling No. 2 Charles Babcock farm, Section 14, Fallsburg Township, Licking County. Emerald Petroleum Co. is drilling below 2,990 feet in No. 2 on the Calvin Mossholder farm, same section. Blue Rock Oil Co. is drilling below 2,815 feet in No. 2 on the Sam Mossholder farm, Section 15, same township.

Mid-East Gas Co. got a showing of gas at 3,402-41 feet in No. 3 on the Ludwin Flowers farm, Section 14, Muskingum Township, Muskingum County, and will give it a shot. Pure Oil Co. is drilling below 1,600 feet on the Emmett Shepard farm, Section 6, Jackson Township, same county.

Atha Co.'s No. 2 well, on the Grover C. Wilson farm, in the Fourth quarter, Washington Township, Muskingum County, is below 5,710 feet. Same company's No. 1 Charles Tumblin farm, Section 20, Perry Township, same county, is fishing

on top the Clinton lime at 4,402 feet, total depth being 4,441 feet.

In Tuscarawas County, Frey and others' test on the W. G. Notz farm, Section 3, Fairfield Township, topped the lime formation at 3,195 feet and went to 3,690 feet, but has not had a show worth while. Hopewell Oil & Gas Co. is drilling around 2,000 feet in No. 3 on the George W. Asher farm, in Lot 30, Washington Township, same county. Gordon Oil & Gas Co. is rigging up for No. 3 on the Martha Carroll farm, Lot 32, same township.

In Belmont County, Robert Lewis and others' No. 4 on the Rosalia Johnson farm, Section 27, Somerset Township, is a gas well at 1,954 feet. Same parties' No. 3 on the J. H. House farm, Section 32, Warren Township, same county, is also a gas well in the Cow Run sand at 612 feet.

INDIANA-ILLINOIS

There were no completions from Indiana or Illinois.

KENTUCKY

Only one completion was reported from Kentucky, Ellis & Young's No. 1 on the Jeff Wells farm, in the Greenville area of Muhlenberg County, a dry hole.

D. E. Foster, sales manager of the Bowling Green Refining Co., Inc., of Bowling Green, Warren County, Kentucky, writes: "It might be of interest to you to learn several wells which were drilled some 10 years ago in the Rockfield section of Warren County, Kentucky, have recently been resurrected and are making excellent producers for this section. These wells were originally drilled in a salt water area and there was no attempt to exhaust the water. It has been found that consistent pumping tended to lower that water and, although the wells produced only a small percentage of oil at the start, they are now, I understand, producing up to 100 bbls. daily."

Eastern Fields

(Continued from Page 57)

completed in the Injun sand at 1,725 feet and will make a light gas well.

Drilling in West Virginia

In Lost Run Pool, Clay district, Ritchie County, the following work is noted: C. F. Vincent and others are drilling at 500 feet in No. 3 on the Biddie Fox farm, Elder Loudin and others are down 400 feet in No. 4 on the S. E. Satterfield farm. Richards Farm Oil Co. is drilling No. 3 on the Corlie Ball farm and has reached 450 feet. Robert Bills and others have a rig standing on the Vincent heirs farm. The Lucky Strike Oil Co. has a rig standing on the Daugherty farm. On the Charles H. Frederick farm Smith and Hendershot have completed a rig for No. 3. Lucas and Mahaney are building a rig for a second test on the J. F. Kelley farm.

In other parts of Ritchie County there is new work starting. W. H. Bickle has a rig standing on the John H. Hyman farm in Murphy district. In the same district A. R. Kelly has made a location on the C. M. Welch farm. The Four Point Gas Co. has made a location on the J. T. Johnson farm, same district. In Grant district, Lucas and Mahaney have a rig standing for a second test on the Van Martin farm. Big Four Drilling Co. is down 1,600 feet on the D. C. Newbrough farm, same district.

In Tyler County the Ohio Oil Co. has reached 1,000 feet on the Emerson Hill farm in Meade district. In this district, J. N. Jones is down 900 feet on his own property. In Wood County, Warren Reed is drilling on the David McAllister farm and has reached 900 feet.

In Pleasants County Mackey Oil & Gas Co. has a drilling machine on the E. C. Owens farm in Lafayette district In this district, Hess Oil & Gas Co. has reached 520 feet on the Homer Hess farm and Locke-Simonton and others are spudding in on the Sarah Watson farm.

In Calhoun County additional new work is noted. In Lee district, Simmons Gas Co. made a location for a second test on the Sylvester Brannon farm, and F. F. MacIntosh is building a rig for a second test on the Mary E. Hays farm. In this district South Eastern Gas Co. is drilling in the Big Injun sand in No. 3 on the John Slider farm, and Litt Oil & Gas Co. is fishing at 1,100 feet on the J. S. Wade farm. In Sherman district, Jess Mason and others have started drilling on the J. K. Ferguson farm. Poling and Mollahan are driling a second test on the Almetta Wilson farm and have reached 1,100 feet. F. F. McIntosh has reached 1,810 feet in a second test on the O. S. Bennett farm. In Center district, M. V. Burt and others are about on top of the Injun sand on the Beeman Wright farm, and Fisher and Smith have rigged up to start drilling their second test on the C. A. and M. S. Fisher farm.

In Gilmer County, Clem Morris and others have a rig up for No. 3 on the Cora B. Gainer farm in DeKalb district. In this district, Charles Despard and others are down 300 feet on the M. L. Amos and others farm. In Center district, C. W. McCall and others are drilling on the J. M. Taggart farm and have reached 825 feet. This will presumably be drilled to the Berea sand.

In Roane County, Frank Finley is rigging up on the W. H. Smith farm in Geary district. In Smithfield district, Ohio Valley Gas Corp. has reached 950 feet on the Josephine Young farm. In Curtis district, W. B. Heeter is shut down at 750 feet on the Maude Knopp and others lease.

In Doddridge County, John M. Walton and others have a rig standing on the Riley Pigott and others lease in Central district. In West Union district, Philadelphia Oil Co. has reached 1,100 feet in No. 6 on the J. C. Coulehan farm and Columbian Carbon Co. is down 2,100 feet in No. 20 on the Lewis Maxwell lease.

SOUTHWEST PENNSYLVANIA

No wells were completed in Southwest Pennsylvania during the week. In Amwell Township, Washington County, a new test is listed. Carnegie Natural Gas Co. has made a location on the John C. Murphy farm in the northeast corner, about 4,700 feet due east of the fair gas well on the VanKirk farm. In this township, the same company is down 640 feet on the Fred Baumberger farm and is building a rig on the C. W. Dunn farm. In same township, Wise Oil & Gas Co. is skidding the rig to a new location on the Roach farm.

In Somerset Township, Washington County, Ellwood Oil & Gas Co. is down 2,230 feet on the Mansfield farm. In Hanover Township, Carnegie Natural Gas Co. is drilling at 1,730 feet in a test deepening on the J. C. Baim farm.

In Greene County, Myers, Hoskinson and others are drilling at 500 feet on the J. N. Clutter farm, Richhill Township. In Greene Township, John Lantz has started drilling his test on his own farm and is down 225 feet.

DALLAS A.P.I. MEETING

DALLAS, Tex., Nov. 27.—Headquarters for the general convention committee for the 1934 American Petroleum Institute convention in Dallas has been set up in the Magnolia Building. R. B. Whitehead, chief geologist for the Atlantic Oil Producing Co., was named chairman of the room committee. F. W. Burford, president of the East Texas Refining Co., was named chairman of the refiners' committee, and W. H. Francis, of the Magnolia Petroleum Co., chairman of the legal committee. The Dallas Petroleum Geologists, of which L. W. Orynski, chief geologist of the California Co., is chairman, was appointed to arrange for geologists attending the meeting.

Capt. J. F. Lucey, of the Lucey Petroleum Corp., is chairman of the general committee, on which the following will serve: L. B. Denning, R. H. Morrison, R. F. Harris, S. A. Guiberson, W. J. Morris, E. H. Blum, Roy McCollum, Dudley Golding, E. R. Brown, Edward T. Moore and J. Edgar Pew.

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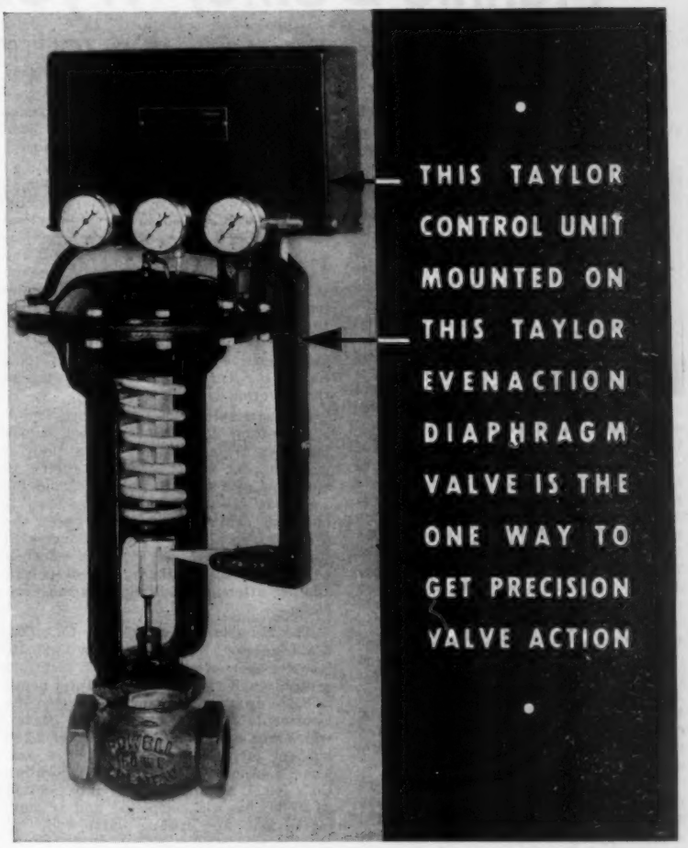

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SPECIAL TAYLOR NEWS!

Since October 1st Taylor has been shipping only its new Temperature and Pressure Recorders and Recording Regulators. Features of these new instruments are a modern die-cast case originated by a noted American product designer, and many distinct improvements in the mechanism inside. These instruments represent another step in Taylor's established principle of providing industry with the most up-to-date control equipment. If you do not know about them yet, send for full information.

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Buckingham, Colo., Test Suspended for Winter; Frannie Dome, Wyo., Has 500 Barrel Well

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Nov. 27.—The Shell Petroleum Corp.'s No. 3 Grimes, in the Hobbs Pool, gauged 964 bbls. of oil and 24,000,000 feet of gas in 24 hours. A modified proration agreement for the Hobbs Pool, in which 17 units showing water are given 40 per cent on acreage and 60 per cent on potential in prorating the allowable, went into effect on November 16. A wildcat in the South Eddy area in Eddy County is spudding.

The Ramsey Petroleum Corp.'s test in the Buckingham district in Colorado failed to show either gas or oil in the Muddy when bailed down and operations have been suspended for the winter. The Mountain Fuel Supply Co. completed a 7,000,000-foot gas well in the Hiawatha district. One location was released on the Iles Dome.

Wyoming had a 500-bbl. completion in V. M. Kirk's No. 1 on the Frannie Dome in Park County. The Reeder test on the Overland Dome in Carbon County slopped over the top several times from the Mowry shale. A slight extension to the Osage Pool in Weston County was found in the Riggs Oil Co.'s No. 3, which is estimated at 20 bbls. before being shot.

There were no completions and two new locations in the Cut Bank Field in Montana. The California Co. completed a small producer in the Kevin-Sunburst Field and traded it to the contractor for drilling the well.

A wildcat on the Shiloh Dome in South Dakota is resuming.

NEW MEXICO

Lea County

The potential for the Hobbs Pool as of November 16 remains unchanged at 1,216,808 bbls. per day and the allowable outlet for the last half of November stands at 33,560 bbls. per day, but the new schedule inaugurates a modified policy of prorating the allowable among the various units. Operators on 17 units have elected to use the 40 per cent acreage and 60 per cent potential plan, giving them acreage allowance of 74 bbls. per unit and a potential factor of .015811. Three units receive special allowances on account of water and the remaining 164 units continue to use the 25 per cent acreage and 75 per cent potential plan, giving them an acreage allowance of 48 bbls. per unit and a potential factor of .019337. This makes a total of 184 units in production, including the three with special allowances, and the allowable is calculated on the potential of the remaining 181 units. The 17 units which take the 40-60 basis are the water units where the wells are making some bottom water. These are all located on the extreme southwestern and southern edges of the pool and one unit on the extreme north end. The water area thus designated shows no important change from what it was last summer. The new schedule, while practically the same as to potential and total allowable as the schedule for November 1, shows slight decreases and increases in the allowables for the different operators. The Stanolind Oil & Gas Co.'s allowable is increased 35 bbls. per day and the Shell Petroleum Corp.'s is increased 54 bbls. These are the maximum increases. Decreases range from 1 to 30 bbls. daily for several companies as compared with the November 1 schedule.

The Shell Petroleum Corp.'s No. 3 Grimes, SW NE SW Section 28-18-38, the only well drilled in the Hobbs Pool for several months, was completed at 4,200 feet. It gauged 964 bbls. of oil and 24,000,000 feet of gas per day through the casing and 450 bbls. through the tubing. Gas was not gauged in the test through the tubing. It topped the anhydrite at 1,580 feet, the salt at 1,786 feet and the brown lime at 2,800 feet. The top of the Terry was at 4,004 feet and the elevation is 3,651 feet.

Western-Anton's No. 1 Conditt, C SW SW Section 12-25-36, Jal Pool, which has been trying to shut off a flow of gas the past two weeks, ran tubing to 850 feet, as far as it would go, and the well was killed for one hour. Then it blew out again at 850 feet between the 6 and 8-inch pipe and the flow increased to 50,000,000 feet per day. An effort is being made to get the tubing deeper in another attempt to kill the gas and complete.

The Humble Oil & Refining Co.'s No. 3-A Lindley, C NW SW Section 13-25-36, tested a show of gas at 3,320-35 feet, and probably will run the 7-inch. Total depth is 3,335 feet. It is a south offset to the Continental Oil Co.'s No. 1-B Sholes, which was completed last spring for 2,280 bbls. of oil and 40,000,000 feet of gas. The Southern Petroleum Exploration Co.'s No. 1 Ascarate, C NE NW Section 24-25-36, has rig completed and is moving in tools and drilling water well.

Eddy County

Warren L. Todd's No. 1 Levers, C SE SE Section 25-26-29, South Eddy area, for which a location was released two months ago, began spudding November 8 and is drilling at 460 feet in lime. It had 4 bailers of water per hour at 150 feet. This is a wildcat 5 miles to the southwest of a test drilled in 1929 by the Lockhart Oil Co., which went to 3,820 feet.

Ralph Spearow and others' No. 1 McClellan, SW NW NE Section 22-22-23, western Eddy County, is drilling at 4,317 feet in black shaley lime. The Pecos Valley Drilling Co.'s No. 1 McIntyre, NW NW Section 27-23-25, Dark Canon district, is drilling at 1,101 feet in white lime.

Stovall & Marshall's No. 1 Mock, C SE SE Section 29-24-27, Black River district, is drilling at 1,582 feet in salt. Compton Oil Co.'s No. 6 State, SW NE SW Section 15-16-23, Upper Cottonwood district, is drilling at 564 feet in gray lime with the 8½-inch at 528 feet. Harry Leonard's No. 9 State, SE cor. NW Section 22-17-29, Jackson area, is fishing at 2,728 feet in gray lime. It had shows of oil at 2,655-61 and 2,708-19 feet. The Western Drilling Co.'s No. 2-A Green, SW NE Section 29-17-29, is drilling at 2,590 feet in white lime. C. H. Lockhart and others' No. 2 Root, C SW SW Section 7-17-20, is drilling at 3,575 feet in gray lime.

Chaves County

George Etz and others' No. 1 Etz, C SE NE Section 14-8s-26, Railroad Mountain district, 24 miles northeast of Roswell, is drilling at 1,030 feet in the red beds, and the Warman Oil Trust's No. 1 Weldon & Hoar, NW cor. SE Section 9-14-25, Blackdom district, is shut down at 1,224 feet.

COLORADO

Weld County

The Ramsey Petroleum Co.'s No. 1 Scriven, C NW Section 22-7n-59, Buckingham district, is shut down for the winter after failure to find oil or gas in the Muddy sand. After cementing the 7-inch at 6,794 feet and standardizing, the plug was drilled out and hole bailed to bottom at 6,818 feet. It failed to show either oil, gas or water. It was then shot with 13 quarts at 6,810-14 feet and again with 12 quarts at 6,804-08 feet, with nothing showing. The failure of this test, which is located three-fourts of a mile southwest of the same company's No. 1 St. Anthony, a gas well, means that if production is found in the vicinity of the discovery well, it most likely will be in some other direction. No. 1 Scriven was not, however, drilled to the Dakota. It probably will be deepened to that horizon in the spring and possibly to the Lakota, which some oil men believe to be the most promising sand in northeastern Colorado, but no official announcement has been made as to future plans.

Moffat County

The Mountain Fuel Supply Co.'s No. 1 Wheeler, SE NW NW Section 30-12-100, Bartram, or West Hiawatha Dome, was completed in the second Wasatch gas sand for 7,000,000 feet of gas per day, open flow. Total depth was around 2,000 feet. This is the third gas well completed on the west dome and is located three-fourts of a mile southwest of the Texas Company's No. 1 Berlin, which made 8,000,000 feet initial when completed in 1929, and one-fourth of a mile east of the Mountain Fuel Supply Co.'s No. 1 Lasher, which was completed for 5,000,000 feet. The Texas Company's No. 1 Van Schaick, SW cor. Section 19-12-100, is shut down at 191 feet. The Mountain Fuel Supply Co.'s No. 2 Florence Wilson, C NE NE Section 22-12-100, Hiawatha Dome, is testing gas sand at 3,600 feet, where casing was ripped.

The Texas Co. has released a location on the Iles Dome for its No. 5 Parkinson, 330 feet from the north line and 220 feet from the west line of Lot 13, Section 23-4n-92.

Boulder County

The Consolidated Smelting & Metals Co.'s No. 1 Blubaugh, SE cor. Section 20-3n-70, Lyons district, is waiting on cement after setting the 3-inch on top of a sand at 1,050 feet to test a show of oil. Total depth is 1,100 feet.

Huerfano County

S. W. Pressey's No. 1 Ojo, SW NE Section 10-29-69, Oak View district, is drilling at 2,110 feet in black shale, with a good show of gas. The gas first showed at 1,920 feet and has increased with depth.

Las Animas County

The Mountain States Oil Corp.'s No. 1 Nikola, C NE SE Section 10-34-62, Garcia district, is waiting for new cable at 915 feet.

Fremont County

The Cherry Creek Placer Co.'s No. 1 Lucas, SW cor. NE Section 32-18-69, Florence district, made 30 gallons per day at 2,220 feet after plugging back from 3,075 feet.

Park County

The South Park Oil Co.'s No. 1 Milligan, NE cor. SE Section 13-8s-76, Jefferson district, had to stop twice to cement off caving ground and made only 5 feet of new hole the past week to 3,135 feet.

WYOMING

Polk County

V. M. Kirk has a good completion in the Frannie Field in his No. 1 Government, SW cor. Section 24-58-98, and is estimated at 500 bbls. per day from a total depth of 2,741 feet. The Embar was found at 2,654-89 feet and the Tensleep was topped at 2,706 feet. If permission can be obtained from the Bureau of Mines it will be given a 30-day pumping test. It is an offset to three producers and does not prove up any new territory.

Carbon County

Earl W. Reeder, Inc.'s No. 1 Union Pacific, C SW SW Section 19-20-83, test well on the Overland, or Pass Creek structure, is the most interesting wildcat in the State at present. Its total depth is 3,735 feet. The 6⅝-inch was pulled and the 8¼-inch will be underreamed to bottom to shut off water before drilling deeper. The hole was given a short swabbing test and flowed 20 bbls. of 40 gravity crude. It is showing some gas and the well has slopped over several times. The oil is supposed to be coming from the Mowry shale, which was topped at 3,565 feet. The hole is caving considerably at the bottom and it probably will be several weeks before it can be cleaned out and casing landed and drilling resumed. It is supposed to be within 200 feet of the first sand in the Dakota series.

The Ohio Oil Co.'s No. 2 A. J. Hazlett, NE cor. Section 34-23-79, Allen Lake, which was reported a completion last week for 20,000,000 feet of gas in the Sundance at 2,110-79 feet, is being allowed to blow to clear the hole of water. It was plugged back from 2,661 feet to 2,179 feet. Rig is being moved back to No. 1 Hazlett, NE NW Section 34, which will be deepened from 1,710 feet to the Tensleep. The Producers & Refiners Corp.'s No. 4 Wertz, SW cor. SE Section 7-26-89, Wertz Dome, is drilling in cement at 2,727 feet after settling the whipstock at 2,700 feet to drill by junk in the hole. Total depth is 3,365 feet.

Hot Springs County

The Empire State Oil Co.'s No. 4 Republic, NE cor. NW Section 14-44-98, Hamilton Dome, is drilling at 2,600 feet.

Big Horn County

W. O. Taylor and others' No. 1 Hoskins, SE SE Section 25-56-97, Byron Dome, is drilling at 680 feet with the 15½-inch at 631 feet. The 20-inch was set at 52 feet. Location is on an island in the Shoshone River and it is a rotary test south of a fault.

Natrona County

The Midway Oil Corp.'s No. 1 Boyer, SW NE NE Section 23-35-79, Midway Dome, is fishing for drill pipe at 4,689 feet. Most of the pipe has been recovered.

Weston County

The Riggs Oil Co.'s No. 3, CSL SE NE Section 16-46-64, Osage Field, which was believed to have missed the Muddy sand at 3,300 feet, was drilled deeper and picked up the pay at 3,320-31 feet. The sand was hard and tight and it is estimated that it will make 20 bbls. on the pump. However, before completing,

it will be given a shot. The location is on the west side of the field and will extend the productive area close to one-half mile to the west. An operation not heretofore reported is the Weston Oil Trust's No. 3, NW SE NW Section 23-46-64, which is drilling at 500 feet. The Osage Field is now averaging around 1,000 bbls. per day and the crude is going out through regular channels at from $1.08 to $1.23 per barrel.

Crook County

Dr. B. R. Kinter's No. 1 Rockford-Wyoming, NE SE Section 13-52-62, Rocky Ford district, straightreamed to 400 feet after pulling the 8¼-inch and has rerun that string to bottom.

Niobrara County

The Interstate Oil & Refining Co.'s No. 1 Morrell, NW NE SE Section 2-29-61, West Mule Creek, has mudded off a flow of 1,500,000 feet of gas in sand topped at 2,245 feet and has underreamed the 6⅝-inch to bottom at 2,268 feet. Ed Shogren and others' No. 1 Olinger, NE Section 1-36-63, Old Woman Creek, set surface pipe at 100 feet.

MONTANA

Glacier County

There were no completions in the Cut Bank Field. Two new locations were made in the Santa Rita Oil & Gas Co.'s No. 2 Cardwell, C Lot 4, SE cor. Section 15-35-6w, just east of the Indian Reservation line, and J. C. Jeffries and others' No. 1 Clark, C SW SW Section 3-34-6w.

The Alberta-Pacific Consolidated Oil Co.'s No. 3 Kiesel, NW cor. Section 11-34-6w, cemented the 10¾-inch at 143 feet, and its No. 3 Matson, SW NW SW Section 14-34-6w, is rigging up rotary at 148 feet.

The Commonwealth Petroleum Co.'s No. 1 Getty, C NE SW Section 15-34-6w, is drilling at 1,875 feet, and Lon Crumley's No. 1 Billedeaux, NW SE Section 27-35-6w, is drilling at 2,300 feet. Dunstall and others' No. 1 Kennerly, C NE NW Section 22-34-6w, is building rig, and the Montana Headlight Oil Co.'s No. 2 Williams, C NE NE Section 11-34-6w, is rigging up.

The Montana Power Gas Co.'s No. 1 Haines, C SE Section 20-35-5w, is drilling at 2,170 feet, and its No. 1 Seeba, NE cor. NW Section 2-34-6w, is drilling at 1,820 feet. Nadeau Brothers' No. 1 Van De Mar, C SE NW Section 35-35-6w, is spudding at 225 feet, and the Olive Oil Co.'s No. 1 Winkler, NW NW Section 35-35-6w, is rigging up. The Par Oil Co.'s No. 2 Haines, SE cor. SW Section 2-34-6w, is drilling at 2,600 feet. The Santa Rita Oil & Gas Co.'s No. 3 Tribal, C NW NW Section 15-35-6w, is building rig, and its No. 3 Yunck, C SE SW Section 14-34-6w, is rigging up.

R. C. Tarrant's No. 2 Britton, SW NW SE Section 14-34-6w, is drilling at 2,745 feet, and his No. 3 Britton, C NW SW Section 12-34-6w, has material on the ground. Tarrant's No. 1 Carman, C NW NW Section 19-34-5w, which had 150 feet of fluid in the hole at 2,800 feet, is standing to see what it will do. His No. 2 Haglund, Sr., C NW NW Section 13-34-6w, topped the Colorado at 475 feet and is standing with the 10¾-inch cemented at 495 feet. Tarrant's No. 4 Haglund, Sr., C SE SE Section 13-34-6w, is drilling at 1,960 feet, and his No. 2 Miller, C SW NE Section 24-34-6w, is drilling at 2,275 feet. Same operator's No. 1 Winkler, C SW SW Section 23-35-6w, is drilling at 2,280 feet.

The Texas Co.'s No. 1 Fisk, C NW NE Section 14-35-6w, is cleaning out and bailing at 2,950 feet after plugging back from 2,981 feet, and its No. 1 Haggerty, SE cor. Section 9-34-6w, is drilling at 911 feet. Same company's No. 1 Hinkle, NW cor. NE Section 2-34-6w, is standing cemented at 2,814 feet and moving in spudder to drill in, and its No. 1 Purdy, SE cor. SW Section 35-35-6w, is rigging up. Texas Co.'s No. 1 Yunck, NW SW Section 14-35-6w, is shut down at 158 feet, and its No. 1 State, C NE Section 16-32-5w, South Cut Bank, is drilling at 1,045 feet. L. R. Hannah and others' No. 1 Peterson, SW NW NW Section 29-32-4w, which was shut down at 400 feet to enclose rig and bury gas line, has resumed and is drilling at 487 feet.

Toole County

In the old, old days, before there was any stabilized currency, or talk of commodity dollars, inflation or NRA, the system of barter and trade was in operation. It was revived the past week in the Kevin-Sunburst Field when the California Co. completed its No. 16 Smoke, SW NW NW Section 27-35-2w, for 10 bbls. per day and turned the well over to the contractor in payment for same. It cut the Ellis sand at 1,436-53 feet. After treating with acid it increased to 12 bbls.

Michener's No. 3 DeGroat, C SE SW Section 10-34-2w, was abandoned at 1,420 feet.

SOUTH DAKOTA

The Lakota Development Co.'s No. 1 Knude, SE SE Section 20-10s-4e, Shiloh district, Fall River County, which was shut down a year ago at 3,012 feet upon encountering warm water in the top of the Minnelusa, is rigging up to shut off water and drill deeper.

Two South Turner Valley Tests Reported Now Definitely in the Deep Lime

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Nov. 25.—In the South Turner Valley two tests are now definitely in the deep lime. Sterling Royalties' No. 1, LSD 1, Section 33-18-2w5, found top of the Madison lime at 4,970 feet. Drilling was continued to 5,001 feet. The test is west of the Sterling Pacific producers in Section 34 and north of Section 28, where extensive drilling is now in progress. In Section 28-18-2w5, Becker Syndicate's No. 2 Anaconda, LSD 15, is resuming after cementing 8⅝-inch casing 20 feet in the lime at 5,100 feet, and is expected to get the producing horizon early in December.

Several other tests in Section 28 are making good headway. Mar Jon Oil Co.'s No. 2 Kindersley, LSD 10, is drilling in the lower Blairmore formation below 4,237 feet, and looks like the next test to get the lime.

Pacalta Oils' No. 1, LSD 7, same section, has bought the rig used by Twin Dome Oils, Ltd., for its unfinished test at the mouth of Sheep Creek, in LSD 10, Section 16-21-28w4, to replace the outfit destroyed by fire. The Pacalta test was down 3,230 feet. Spooner Oils' No. 5 Anaconda, LSD 1, same section, is reported at 1,440 feet and drilling out cement.

Associated Royalties' No. 1 Spray, LSD 9, Section 5-19-2w5, has set casing at 2,885 feet and is making hole. Test originally bottomed at 3,350 feet, but ran into a difficult fishing and casing job and had to go back some distance to straighten hole.

Far South Tests

In the far south end, Union Drilling Co.'s No. 1, LSD 8, Section 21-18-2w5, is drilling in the lower Benton below 2,600 feet. If the hole stands up, open hole will be drilled to around 3,200 feet where 13⅜-inch casing will be set, and the crew moved to Livingston Syndicate's No. 1 while cement is setting. Highwood-Sarcee Oils' No. 1, LSD 16, same section, drilled by the Renner-Snyder-Davies group, is below 2,340 feet. Hoffar-Lundy Syndicate's No. 1, LSD 13, Section 22-18-2w5, is below 4,215 feet.

Royalite Secures Wells

Shareholders of Alberta Pacific Consolidated Oils, Ltd., at a special meeting held at Calgary, approved the proposed sale of the company's producing wells and acreage in Section 20-19-2w5, South Turner Valley, to Royalite Oil Co. The transfer includes oil and gas rights in LSDs 4 and 5, together with surface rights in the two LSDs and on five acres in LSD 12; also the company's two wells, Nos. 1 and 2, in LSD 5, and all production equipment. The wells, drilled to the deep lime horizon some years ago, have a small crude naphtha production, estimated recently at 200 bbls. a month.

Moose Mountain Tests

On the Moose Mountain structure west of Calgary, Elbow Oils' No. 1, LSD 11, Section 35-22-5w5, is hauling casing preparatory to resumed at 3,645 feet. Farther north, Graystone Consolidated's No. 2 Signal Hill, LSD 9, Section 34-23-5w5, was recently shut down for the winter at 1,710 feet.

Oil City Test

In the old Oil City Field, southwestern Alberta, Oil City Royalties' No. 1 Patrick, Section 30-1-30w, is making slow headway around 1,400 feet. Analysis of water taken from the well is reported to indicate a typical oil well water.

Oil Show at Rialto

On the Alberta end of the international Reserve Dome structure, Rialto Oils' No. 1, LSD 4, Section 15-1-9w4, has encountered an oil show at 2,260 feet, and is deepening. The show is reported in the same horizon as oil was encountered in the discovery well on the Whitlash structure south of the boundary. Mayland Southern's No. 1 in LSD 13, Section 4-19-2w5, encountered gas at this depth. The Mayland Southern well is some distance south of the Rialto test, and was abandoned last year at 3,000 feet when no oil was found.

On the Twin River structure south of Lethbridge, Nordon-Roney's No. 2 Twin River, LSD 11, Section 2-2-20w4, has cleaned out and is waiting for acid treatment.

Duvernay Test Rigging

On the Duvernay structure north of Edmonton, Frontier Development's No. 2, LSD 8, Section 36-55-12w4, is rigging up for rotary test which will not likely start drilling until spring.

Test in Saskatchewan

In southern Saskatchewan, Pine River Petroleums' No. 1, LSD 8, Section 23-12-24w2, on the Dirt Hills structure, is reported held up by a fishing job at 2,614 feet.

Kelowna Operations

In British Columbia, Okanagan Oil & Gas Co.'s No. 1, E half Section 2-26-Osoyoos, near Kelowna, is reported standing at 2,740 feet. At that depth work was delayed by iron in the hole on which the drillers have been pounding for some time.

Fraser Valley Gas Show

In the Fraser Valley area, British Columbia, Noble Francis Natural Gas Corp.'s No. 1, Mrs. John MaGachie farm, south of New Westminster, is reported to have struck a small gas show at 820 feet. Location is 1¼ miles from Cloverdale on the Pacific highway. Small gas shows were previously met at 135, 270 and 560 feet, with a larger show at 680 feet. At 820 feet the gas pressure blew mud and water out of the hole. Volume was estimated between 80,000 and 90,000 feet a day, and drilling is continuing with the gas under control.

Isolated Test Uses Radio

Cut off from practically all other means of communication with the outside world during the winter, Columbia Oils, Ltd., which is drilling a wildcat test in the Sage Creek area of southeastern British Columbia, has recently installed a 50-watt radio transmitter which will be used to send out messages.

Columbia Oils started drilling in the Sage Creek Valley in June. While communications are difficult even in summer, owing to the remoteness of the field, and the absence of telephone and telegraph lines, during the period of heavy winter snow the field is completely hemmed in by impassable roads.

B. R. Tupper, engineer for the British Columbia Telephone Co., recently completed and tested the installation which communicated successfully with Vancouver and Campbell River. Power will be furnished by the company's plant, and messages will be transmitted to the Columbia headquarters at Vancouver and to Campbell River, British Columbia, for relay over land lines. The 50-watt transmitter and short wave receiver are run from a motor generator. Conversation over the radio is practically the same as over a telephone and trouble with fading is almost entirely eliminated by an automatic volume control device. The installation cost around $6,000.

Similar installations are becoming common in Canada, especially in outlying mountainous districts where it would be difficult to build land lines. Stations have been installed at Oceal Falls, Prince Rupert Island and Barkerville in British Columbia and at Anyox, Alaska. Radio communication is used in the forest service in Montana.

Columbia Oils, Ltd., started operations last spring when the B. C. Oil Co.'s rig was skidded to a new location and No. 1 test spudded in. Several tests have been undertaken at various times in the Sage Creek and Flathead Valley areas, the most important being Crow's Nest-Glacier's No. 1, which was carried to a depth of 3,260 feet and encountered encouraging shows of light crude. The field operations for Columbia Oils, Ltd., are in charge of George W. Brake, formerly of Petrolia, at one time with the International Petroleum Co. in Peru. The drillers are Frank Racher, D. A. Holmes and G. A. Holmes of Petrolia. So far they have made better progress and encountered less trouble than any previous operators have during the 20 years in which attempts have been made to test the structure.

The well is now down 1,370 feet with a 12-inch hole. Drilling will be continued through the winter. Location is on the North Fork of the creek, about 12 miles north of the Montana boundary. Supplies are taken in from Columbia Falls, Mont. A strong oil show was met at around 100 feet, after bed rock was struck at 78 feet. The 15½-inch casing was set at 834 feet and the 12½-inch cemented at 972 feet.

Drilling in Ontario

In the Dawn Field, Lambton County, Union Gas Co.'s No. 69, Lot 24, Concession 5, Dawn Township, is drilling below 1,900 feet. It encountered two or three small pays of gas, aggregating less than 200,000 feet a day, and is being deepened. Union's No. 70 has been located in the west end, Lot 24, Concession 1, west of Union's No. 59 which was a good producer.

In Elgin County, Union Gas Co.'s No. 1 Aldborough, Lot D, Concession 10, Aldborough Township, is reported rigging up.

In Essex County, Bon Jasperson's No. 1, Lot 14, Concession 2, Maidstone Township, is drilling in the Trenton limestone below 2,820 feet.

In Kent County, Ralph Dawson is

drilling a test for the Southern Ontario Gas Co., east and a little south of Merlin, in SW Lot 3, Concession 12, Raleigh Township.

In the Dover Field, Prairie Oil & Gas Co.'s No. 2, Stephens farm, Lot 2, front concession, Dover East Township, has spudded in for a test of the Trenton limestone. Location is 850 feet south of Prairie's No. 1 Stephens, which got a fair production of oil and gas in the Trenton. Further west, Ajax Oil & Gas Co.'s No. 6, Antaya farm, SE Lot 1, Concession 4, Dover East, is reported drilling at 800 feet.

Salina Oil & Gas Co. of Chatham which has drilled five wells, four of them producers, in the Glenwood section, is delivering gas to the Southern Ontario Gas Co.

In the Norfolk Field, Dave Wright is drilling Erie Gas Co.'s No. 2 on the Lynn River about 2½ miles north of Port Dover.

In the Haldimand Fields, a local syndicate is starting a test for gas on the Louis Zimmerman farm near Attercliffe.

UNIVERSITY LANDS' NEW ORDER

AUSTIN, Tex., Nov. 27.—The University of Texas board of mineral development has adopted an order requiring that group lessees of university oil lands must begin development of the undeveloped tracts, or must pay the original lease rentals, pending development.

Where a single lessee had numerous disjointed tracts, the university leases permitted him to hold all tracts, upon securing production in one. The new order recognizes the right to retain possession, but requires development of all tracts, or payment of lease rentals on those undeveloped. Uniform notices have been sent by the board to all lessees.

Marketing Code Committee as Named for Western Pennsylvania Region

By ROBERT C. CONINE

OIL CITY, Pa., Nov. 25.—Organization of the Federal Government's medium for actual contact with oil marketers in administering the industry's code of fair marketing practices has been completed for western Pennsylvania with R. A. Browne, of Pennzoil Co., Oil City, as general chairman. This new force of the Government is the western Pennsylvania oil code committee, and its membership represents an impartial cross section of the marketing division.

The duties of the committee members are primarily of an educational nature, and a large part of their work will be in offering corrective suggestions when they believe the code is being violated. However, when violators refuse to comply it is the duty of the committeemen to report these recalcitrants to the Federal authorities. A division of investigation has been formed in the Department of Justice for the purpose of prosecuting oil code violators with the aid of Federal attorneys.

The following are the committeemen for the western Pennsylvania counties:

Subcommittee for Western Pennsylvania

R. A. Browne, chairman, Pennzoil Co., Oil City; Frank Pardoe, Allegheny County Dealers Association, Pittsburgh; S. M. Cohn, Independent Oil Co., Altoona; William J. Patterson, Atlantic Refining Co., Pittsburgh; J. B. Fisher, Standard Oil Co. of Pennsylvania, Pittsburgh; P. C. Marie, Marie Gas & Oil Co., Pittsburgh; P. C. Harvey, Texas Co., Pittsburgh; D. A. Casey, Duquesne Gasoline & Supply Co., Pittsburgh; W. A. Stone, American Oil Co., Pittsburgh; J. O. Craig, Sun Oil Co., Pittsburgh; W. D. Sherman, Vacuum Oil Co., Pittsburgh; C. H. Dougal, Gulf Refining Co., Pittsburgh; J. G. McCaw, Freedom Oil Works Co., Freedom; A. C. Ellinger, Canfield Oil Co., Pittsburgh; C. A. Giblon, Crew Levick Co., Pittsburgh; G. Malcolm, Pure Oil Co., Pittsburgh; J. O. Corner, Rocolene Refining Co., Coraopolis; William J. Lauffman, Fleetwing Oil Corp., Cleveland; F. C. Cottrell, Sinclair Refining Co., Pittsburgh; R. H. Archibald, Richfield Oil Corp., Pittsburgh; John Beck, Pennsylvania Refining Co., Butler; H. C. Livengood, United Refining Co., Warren; C. W. Gebhard, United Oil & Manufacturing Co., Erie; Robert Newton, Sterling Oil Co., Emlenton; Frank H. Ellis, Independent Retail Dealers Association, Pittsburgh; Russell Keck, Kendall Refining Co., Buffalo; H. C. Loveless, Bradford Oil Refining Co., Bradford; Harry Penny, Altoona; C. O. Johnston, Johnstown; K. W. Van Tassel, Erie.

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Blair, Huntington, Bedford and Mufflin

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ELLIS MALLERY DIES

LOS ANGELES, Calif., Nov. 25.—Ellis Mallery, 55, geologist and engineer, died of a heart attack at this home here. He was an outstanding figure in the development of a number of southern California's oil fields. He had been actively engaged in oil projects from Alaska to Mexico up to the time of his unexpected death.

Gulf Coast Fields

(Continued from Page 52)

to the west about 1,500 feet by Yount Lee Oil Co.'s No. 3 Hooks-Sterling which is in process of completion. The well found the oil sand at 4,491 feet.

Proration of the production in the Hull Field has been placed at such a low figure operators have petitioned the commission for a hearing on the daily allowable and the commission set November 27 to hear these petitions at Austin.

During the week Miramar Oil Corp.'s No. 1-B Phoenix Development Co. was completed for 163 bbls. a day from the Jackson sand at a total depth of 5,305 feet. The same company's No. 5 Phoenix Development Co. was also completed for 65 bbls. of pipe line oil an hour from the Jackson sand at 4,455 feet. The company's No. 1-B Phoenix Development Co. is a south extension to production being located outward from the dome.

Acadia Parish

Mills Bennett Production Co. recently acquired a block of 5,000 acres of leases on a prospect north of Jennings townsite, Acadia Parish, and has erected a derrick for its first well, this being on the Riverside Irrigation Co. land, in Section 61-9s-2w. Rig will be moved to this location as soon as possible. The location is on the east side of Bayou Nezpique and about 3 miles northwest of the production in the Jennings Field. Although the test is in Acadia Parish, about 2,000 acres of the block are in Jefferson Davis Parish and 3,000 acres in Acadia Parish.

Humble Oil & Refining Co.'s No. 2 DeVilbiss, Roanoke prospect, Jefferson Davis Parish, encountered an oil-bearing sand, of which 18 feet was penetrated, topped at 8,170 feet. The company decided to drill the test deeper before making a test. On the last reports it was drilling at 8,260 feet in shale. The top 8 feet of oil sand was broken sand and shale and the next 10 feet to the bottom at 8,188 feet was all oil sand. Should commercial production be obtained Humble will pay the Magnolia Petroleum Co. approximately $300,000 already spent by the Vacuum Oil Co. in drilling its five wildcat tests, according to the terms of the agreement under which the Roanoke prospect was acquired. Magnolia Petroleum Co. acquired the Vacuum Oil Co.'s holdings through the Socony-Vacuum merger.

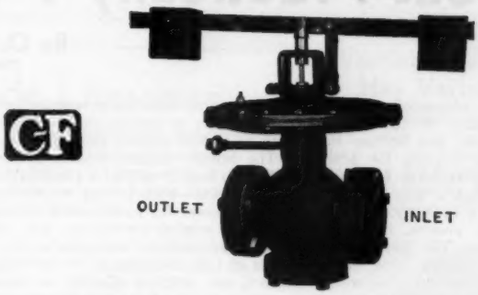
Approximately 8,000 acres of leases are now held at Roanoke by major oil companies with the Humble Oil & Refining Co. and the Shell Petroleum Corp., owning the majority. Oil showings have been found in a number of shallower sands but not in paying quantities. Shell Petroleum Corp.'s No. 1 Kratzer, located about a mile north of the Humble Oil & Refining Co.'s test, in Section 12-9s-4w, started drilling the past week.

TREATISE ON FINE GRINDING

Arthur J. Weinig, director of the Colorado School of Mines experimental ore dressing and metallurgical plant, Golden, Colo., is the author of a book on "A Functional Size-Analysis of Ore Grinds," published in School of Mines Quarterly, (Vol. 28, No. 3) dated July, 1933.

The petroleum engineer or technician might wonder what interest such a treatise could have for him. As this rather exhaustive work deals with the methods of determining actual size-weight distribution of grains of rock or other material ground so fine that the size of particles cannot be determined by screening the book may find a place in the study of admixtures for drilling muds. Other studies of finely ground material may be aided by reference to these data of Doctor Weinig. Copy may be secured for 50 cents by writing Colorado School of Mines, Golden, Colo.

Where Inlet Pressure is Low



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Edeleanu Refining Process May Be Applied to Treat Practically All Petroleum Fractions

By O. P. COTTRELL
The Edeleanu Co.*

Solvent refining pioneered by L. Edeleanu, the inventor of the liquid-sulphur-dioxide process, has become the recognized method of refining for practically all types of petroleum fractions. Solvent refining is not a new development in the petroleum industry.

The scope of the process has been steadily increased over the last several years, until at the present time many Edeleanu plants throughout the world are operating not only for the treatment of kerosenes, but also for the treatment of naphthas and all types of lubricating oils.

Solvents-Refining Art Widened

The art of solvent refining was such a drastic departure from the old-established method of acid treatment that many refiners were slow to accept the value of this new type of refining for treating lubricating oils. However, the increasing demand over the last few years for better quality — which was caused chiefly by new engine design and economical refinery operation—has brought about tremendous activity in the solvent-refining field which has resulted in the development of several new solvent-refining processes. Just as during the last few years all refiners have been directing the major part of their activities toward the manufacture of high octane gasoline, so today their attention is directed largely upon the manufacture of solvent-refined oils.

There are many different compounds that are oil solvents to some extent, and are so classified, yet which would be impractical for use in commercial refining. Some of these compounds have too low a solvent or extractive power; others have too low a degree of selectivity; some are not stable; others injure the oil; some are suitable only for certain types of oil; while others are difficult to recover, or else build up undesirable additional products.

A year ago, at the thirteenth annual meeting of the American Petroleum Institute, at Houston, Tex., the author presented a paper outlining the activities and progress of the Edeleanu company in the sphere of solvent refining pertaining to the production of motor oils of improved specification. Data were submitted indicating the results that were obtained by the new developments with the Edeleanu process, viz., the treatment of lubricating oils with a mixture of liquid sulphur dioxide and benzol. Since that time much experimentation has been made, further confirming the value of this process for the treatment of lubricating oils.

Solvent Power Increased

One of the very important features of this new development is the ability to increase the degree of solvent power of liquid sulphur dioxide by the addition of varying quantities of benzol. By this innovation the most extreme and diversified types of oils of a wide range of gravities and viscosities can be satisfactorily refined by using different proportions of the two solvents to satisfy the requirements both as to high quality and high yields.

The benzol—sulphur-dioxide process is unique in that it utilizes a combination of two solvents—both having extraordinary solution power for unsaturated, aromatic, resinous, sulphur-containing, and otherwise nonparaffinic compounds. On account of this discovery of the blending of benzol and sulphur dioxide in varying proportions, the Edeleanu process stands out as one having great scope and flexibility.

Changes in design and construction of Edeleanu plants now make possible the treatment of gasolines or kerosenes with sulphur dioxide, and lubricating oils with sulphur dioxide and benzol—sulphur dioxide in the same unit—thereby effecting considerable economy in equipment cost by utilizing the remarkable adaptability of the process in the refining of the light, intermediate, and heavy products of distillation.

The wide range from transformer and neutral oils to cylinder and bottom stocks requires, for utmost efficiency, both solvent and selective power that can be regulated to meet the varying requirements of these different viscosity oils of naphthenic and paraffinic sources. Lighter oils normally require a more selective-solvent action than heavier oils to obtain results consistent with economical plant operation regarding yield; and with the two solvents, benzol and sulphur dioxide, the selectivity—as well as the solvent power—can be governed by different proportions of the two solvents.

Capital Investment

The question of capital investment is one of great importance, particularly when the life of the process is considered. Therefore, with the combination of sulphur dioxide or benzol—sulphur dioxide in the same unit, the chance of the process becoming obsolete is lessened considerably. With conditions changing so rapidly in the industry, the refiner never knows what his requirements will be a year hence; and, therefore, in selecting a process, serious consideration should be given to its flexibility and the range of products that can be satisfactorily treated.

Due to the selective solvent power of sulphur dioxide alone, all low-boiling fractions can be very satisfactorily separated into their component parts. The treatment of kerosenes is well known and recognized; but the treatment of lower-boiling fractions, such as naphthas, for the production of special solvents and anti-knock compounds is a field for future development. On account of the effective manner in which sulphur dioxide can refine naphthas at a low cost of operation, it is not unlikely to expect that, with changes in the price structure of gasolines, the sulphur-dioxide process will play an important part in the refining of various gasolines, both heavy and light.

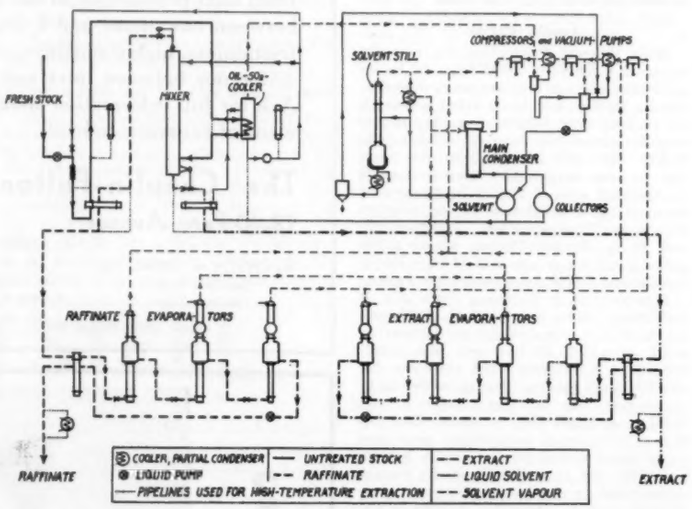


Fig. 1.—Edeleanu process flow sheet. Sulphur dioxide or benzol—sulphur dioxide treatment

Flexible Process

For the production of high-grade lubricants, with large yields and resulting low costs, the treatment with sulphur dioxide alone is very satisfactory, and is being used extensively for this purpose at the present time. For the production of oils meeting certain specifications—including high viscosity index, low carbon residue, improved stability, etc.—the combination of benzol—sulphur dioxide fills the requirements of a very flexible type of operation.

Distillates from various types of crudes throughout the country require a certain treatment to produce the maximum yield of the desired oil at the lowest cost of production. On account of the flexibility of the benzol—sulphur-dioxide combination, these various types of distillates can be refined successfully by varying the proportion of benzol to sulphur dioxide, and also by varying the total volume of solvent. In addition to the variations in quantity and ratio of solvents, the temperature may also be varied to meet certain conditions for treating only lubricating oils. It has been found that lubricating distillates can be refined very successfully at temperatures ranging from 80 to 100° F., without serious reduction in yield of finished oil.

For High Viscosity-Index Oils

In addition to the wide range of flexibility for treating all types of distillates, from the lightest to the heaviest, with sulphur dioxide or with benzol—sulphur dioxide, there is another outstanding advantage of the process which is particularly adapted to the refining of oils when the yield of oil of high viscosity index is rather low. For example, a distillate from Kettleman Hills crude in California is first treated with sulphur dioxide alone, with the production of approximately 70 to 75 per cent raffinate. This raffinate is then further treated with a mixture of benzol and sulphur dioxide. The raffinate from this treatment represents a 90+ viscosity-index oil of very high quality; and the benzol—sulphur-dioxide extract is an oil with properties satisfactorily meeting the requirements of a second grade motor oil or industrial lubricant. On account of this type of operation the cost of producing 90 viscosity-index oil is greatly reduced. Table 1 indicates the results of this type of operation on distillate and long residuum.

The present Edeleanu plant has been designed to take full advantage of the flexibility of the process. Either treatment of light or heavy products with sulphur dioxide alone, or the treatment of heavy products with benzol—sulphur dioxide of varying proportions, can be carried out in the same unit at low operating costs. The unit is sufficiently flexible to permit the use of the plant for the refining of low-boiling compounds and lubricating oils requiring only sulphur dioxide; and, without serious delay and loss of production, the unit can be converted to the treatment of the higher-boiling hydrocarbons with benzol—sulphur dioxide.

Liquid sulphur dioxide and benzol are two well-known stable products, and can be used over and over in the system without any decomposition. The two solvents are commercially available at rather low costs throughout the country.

A flow diagram of a plant for treating with sulphur dioxide or with benzol—sulphur dioxide is shown in Figure 1.

*Presented before Chicago meeting A.P.I., October 25 to 28.

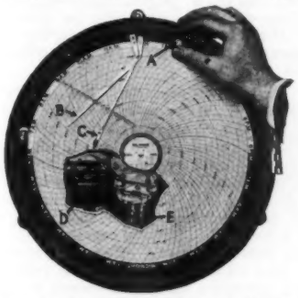
TABLE 1—RESULT OF TEST WITH SULPHUR DIOXIDE FOLLOWED BY BENZOL AND SULPHUR DIOXIDE

	Kettleman Hills dewaxed distillate				Kettleman Hills long residuum			
	Stock extracted with 150 per cent by volume of sulphur dioxide, followed by 200 per cent by volume of benzol and sulphur dioxide (30:70)				Propane-treated stock extracted with 200 per cent by volume of sulphur dioxide at 115° F., followed by 250 per cent by volume of benzol and sulphur dioxide (30:70) at 90° F.			
	Dewaxed distillate	Benzol-sulphur-dioxide raffinate	Benzol-sulphur-dioxide extract	Sulphur-dioxide extract	Propane-treated residue	Benzol-sulphur-dioxide raffinate	Benzol-sulphur-dioxide extract	Sulphur-dioxide extract
Yield, per cent by volume	..	35	36	29	..	31.6	44.4	24.0
Gravity, °A.P.I.	18.0	28.0	21.0	6.0	19.1	26.2	19.2	9.9
Viscosity at 210° F., Saybolt Universal	87	66	85	150	98	88	97	131
Viscosity index	0	90	30	...	36	90	39	...

NEW AND IMPROVED EQUIPMENT

New Brown Controller Has Many Unusual Advantages

The use of mercury switches to eliminate open make-and-break contacts controlled by the pen arm, is a revolutionary feature of a new automatic control thermometer announced by the Brown



Records and Controls Temperatures up to 1200° F.
(a) Knob for changing setting of B. (b) Index showing temperature at which control is set. (c) Temperature pen. (d) Electric motor selects switch position, depending upon relation of C to B. (e) Mercury in glass switches, capacity 15 amperes at 110 volts, positive in action, are mechanically positioned by motor D. No power required from pen. Eliminate relays in most applications.

Instrument Co. of Philadelphia, Pa. Every six seconds a motor-driven control table determines the location of the pen on the chart in reference to the control setting, and tilts the mercury switch from one side to the other if the temperature has changed.

With this unique system the measuring mechanism is free to position itself, unhampered by the control mechanism. There is no excess weight on the pen, no distortion of the pen arm, no restriction of pen movement. The making of control contacts is not dependent upon friction, because the switch is positioned with a positive action by the electric motor. Contacts are unaffected by vibration because the mercury switch is mechanically locked in place until a different position is required. Corrosion and dirty contacts are eliminated, as the switch is sealed in glass. These mercury switches have capacities up to 15 amperes at 110 volts (10 amperes at 220 volts), thus eliminating external relays in most applications.

This new Brown controller is also supplied as a time-temperature cycle controller. A transparent cam placed over the chart is used to shift the control index in relation to time. As the cam rotates with the chart, the control point is moved to new positions, depending upon the shape of the cam. A different cycle of control operations can be obtained by simply cutting a new cam.

This controller is equally adaptable for control of pressure, liquid level, and similar factors, as well as temperature. Catalog No. 6,702, completely describing this new line of controllers, will be sent by the company upon request.

FOR DISPLAYING CANNED OIL

A sturdy display rack for canned motor oil has been put on the market by Union Steel Products Co., of Albion, Mich., which offers the oil company a tie-up with its advertising at the point of sale. Made of heavy steel wire formed and welded in a collapsible design, these racks occupy little space in storage or shipment.

The Anchor Post Fence Co., Baltimore, Md., sold 7,000 feet of 7-foot chainlink fence with gates to match to the Marathon Oil Co. for use at the Marathon's Bristow, Okla., refinery.

Notes About Trade Literature

The Petroleum Equipment Co., Fort Worth, Tex., announces publication of a new catalog, sent on request, covering all its entire line of oil field appliances.

—

The Oil Field Engineering Corp., Fort Worth, Tex., has ready for distribution bulletins describing and illustrating the Ofeco all-steel selfaligning rod line swing, automatic chemical lubricator, combination and straight sucker rod sockets, Wilcox wristpin, split wire line stuffing box and the Hi-line and Lo-line backside crank pumping units.

—

Landis hardened and ground die heads are described and pictured in a 12-page booklet which the Landis Machine Co., Inc., Waynesboro, Pa., has ready for distribution.

—

A resume of the line of motors, generators, motor generator sets, etc., offered by the Crocker-Wheeler Electric Manufacturing Co., Ampere, N. J., is given in a 12-page booklet obtainable on application to that company.

—

Bulletin 152, announced by Strong, Carlisle & Hammond Co., 1392 West Third Street, Cleveland, Ohio, illustrates and describes the Strong reducing and regulating valves and the Strong quick-cleaning strainers.

The use of National seamless drill pipe in the drilling of deep wells is discussed in a bulletin issued by the National Tube Co., Pittsburgh, Pa.

—

A new piece of literature being distributed by the Allis-Chalmers Manufacturing Co., Milwaukee, Wis., is a bulletin telling about the company's direct-current electric drive for rotary drilling.

—

A new booklet issued by the Republic Steel Corp., Central Alloy Division, Massillon, Ohio, gives information regarding Enduro 4 to 6 per cent chromium steels, which are recommended to the refining industry because they resist corrosion, acid attack and scaling at elevated temperatures.

—

"Machine Tools" is the title of a new four-page circular issued by the Wagner Electric Corp., St. Louis, Mo., illustrated with honing, milling, drilling, reaming, tapping, threading, grinding and other machine tools.

—

The Louis Allis Co., Milwaukee, Wis., is publishing a magazine devoted to those interested in the purchase and maintenance of electric motors. They may receive it by sending their names and addresses to be placed on the mailing list.

Trap Has Antibalancing Device and an Improved Seat

The 80 series Strong steam traps recently introduced by the Strong, Carlisle & Hammond Co., Cleveland, Ohio, are of the single-lever inverted-bucket type, with the dual-outlet feature and in addition include the Strong antibalancing device and new seat construction.

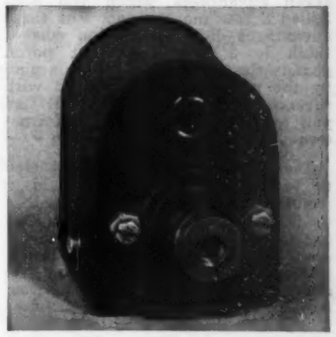
The antibalancing device consists of a valve arrangement which replaces the conventional air vent and is so arranged that the area of the air vent is varied from a small opening used during the filling process to a large vent just at the time the trap is ready to discharge. This is said to overcome the tendency to balance or "dribble." By getting full intermittent action, which causes the discharge valve of the trap to be either wide open or closed, not only is the thermal efficiency of the trap increased but the life of the valves and seats is lengthened owing to the absence of continuous wire-drawing.

The seat instead of being screwed into the trap cover, is bolted in. The seat-holder is forced against a machined surface of the cover by the fulcrum bracket, which in turn is held tightly by two special-alloy heat-treated studs. By removing two hexagon nuts the fulcrum bracket can be lifted off and the seat-holder removed. This arrangement of the seat is designed to insure a tight joint between the seat-holder and cover, perfect alignment of parts, and easy replacement of the seat even after years of service.

The lever and pin are constructed of a special work-hardening steel. The manufacturer made a test to determine the approximate life of the parts in an 80 series trap. The trap completely assembled with the exception of the body was mounted on a testing machine in such a manner that the bucket would be raised and lowered as in a complete cycle of trap operation. Before the test all parts were carefully micrometered to determine the exact size. After over 4,000,000 complete operations or the equivalent of eight years' service (operating once per minute) a careful check indicated that the pins had lost only .001 inch in diameter and that the holes in the levers had increased only .002 inch in diameter. No lubrication of any kind was used.

Westinghouse Fluid Valve Has Various Applications

The Westinghouse fluid valve is an electrically operated check valve recently developed by Westinghouse engineers for handling compressed air and liquid mediums. It handles small or large volumes of compressed air and other mediums



such as gasoline, water, oil and gas. It may be used for the following applications:

(a) Whistle valve. This valve may be connected in a steam or air line immediately in front of the whistle. Energizing the coil through a push button will allow the steam or air to pass through the valve, operating the whistle.

(b) The Westinghouse fluid valve can be inserted in oil or gasoline lines. For example, it has been suggested that the small valve be inserted in the gasoline line of an airplane immediately in front of the gas tank in the wing. The idea is that the coil of the valve can be interconnected in the ignition circuit in such a way that cutting off the ignition switch will close the valve, thus cutting off the supply of gasoline to the motor at the tank.

(c) For controlling supply of compressed air.

(d) For controlling the supply of hot or cold water.

(e) For controlling other liquid mediums such as coils, etc.

(f) For controlling the flow of gases of various kinds.

ANNOUNCE TURBINE-GEAR SETS

A new line of close-coupled, turbine-gear sets, each set consisting of a steam turbine and speed reducing gear, has been announced by the General Electric Co. These new equipments are designed to drive centrifugal pumps, fans and other relatively low-speed apparatus by means of the speed reducing gear, the turbine operating at a relatively high and efficient speed. The sets are particularly applicable where exhaust steam can be used for heating purposes, such as in milk drying machines. Operation is extremely simple and in as much as the sets are self-lubricated, they require but little attention. The housings of the turbine and gear are bolted together to form a single structure supported on the base of the turbine. This arrangement provides a compact unit with a minimum of bearings and assures a correct alignment of turbine and gear.

Hugh L. Rusch, who joined the Northern Pump Co., Minneapolis, Minn., a year and a half ago, has been elected vice president and appointed eastern sales manager. Mr. Rusch was formerly with the Johns-Manville Corp. and prior to that was eastern district manager for Arthur C. Nielsen, Inc.

XUM

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing and transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Comparison Shows Unit Plan of Development Is Less Costly

I have read with interest your articles on the unit plan of developing oil pools and have been impressed favorably by what I have read. I was especially interested in the list of seven advantages which you published a few months ago. But these advantages did not mention what I think is a very important point, namely the cost of developing a pool by the unit plan as compared with the cost of doing it otherwise. Can you give me any specific information on this point?—R. T. H.

The information you seek is believed to be provided in an article in a recent issue of the Lamp, published by the Standard Oil Co. (New Jersey). Two factors, it is pointed out, determine the profit or loss shown on the producer's books. These factors are cost of production and the posted price. Quoting from the article:

"Proration has failed to bring higher prices for crude. But in fields which have been developed in an orderly manner from the initial well on, the low cost of production in comparison with other pools in which restraint has been wholly or largely lacking, demands attention.

"Here are some typical examples Yates, Hobbs, Van, Sugarland and Thompson's are fields which have been produced in an orderly manner under effective proration, though none of these fields is in fact true unit operation. Church and Fields, McCamey, Powell, Orange and Goose Creek are pools comparable in many ways to the first five, but development there has been marked by unnecessary drilling and waste of gas pressure. Excluding land and lease expense, and presuming that the first five fields will be developed in the same manner as heretofore, here is the estimated cost of production per barrel over the probable life of each area:

CO-OPERATIVE DEVELOPMENT

	Cents
Yates	11.5
Hobbs	34.3
Van	19.6
Sugarland	16.9
Thompson's	12.7

COMPETITIVE DEVELOPMENT

Church and Fields	37.5
McCamey	57.8
Powell	54.3
Orange	89.9
Goose Creek	81.2

"In almost any type of oil field experts figure that controlled development, elimination of unnecessary drilling, conservation of gas pressure and control of production may mean a reduction in producing costs of from 50 to 80 per cent—a benefit which is attainable by small and large operators alike.

"The ultimate production cost in East Texas remains to be determined. It is still within the power of operators there to realize an ultimate average producing cost as low as 20 cents a barrel, despite the economic waste which characterized the early development of the field. Without effective restraint, the ultimate cost of production may run to 50 or 60 cents a barrel.

"Quite aside from the public interest involved and the boon to the industry of balanced supply and demand which orderly development aids in achieving, the practical benefit of lower production costs is an incentive to co-operation that should have a strong appeal to all operators, regardless of size or individual interest.

Oil Industry Presents Field for Men Trained in Geophysics

Would you say that the oil industry offers a field for trained geophysicists that warrants young men in preparing themselves for this special line of work? What educational institutions in the United States offer courses in geophysics designed to fit students for handling the torsion balance, seismograph, etc., in the search for petroleum? How much of geology, mathematics and other branches of science should a man have as a prerequisite to taking up geophysics?—L. E. T.

Your questions were submitted to Dr. C. A. Heiland, professor of geophysics in the Colorado School of Mines, Golden, Colo., and the following answers were received from him:

"In answer to your questions regarding the training of geophysicists:

"First, I believe that the oil industry offers decidedly a field for men trained in all branches of geophysics. It has been our experience that it is best to conduct this training along engineering lines: that is, to give the man equal amounts of training in theory, laboratory and field work. The accompanying tabulation, compiled as of September, 1933, will give you an idea of the number of men who are now employed in geophysical work. From this tabulation the need for trained men in all types of geophysics will be immediately apparent.

"Second, there are a number of institutions in the United States which offer courses in geophysical prospecting. Our own goes into every phase of geophysics and has a complete line of equipment for laboratory and field work in all geophysical methods, including such recent developments as a complete reflection seismic outfit. Usually, our major courses, that is, seismograph, torsion balance, magnetometer and electrical prospecting, run six hours per week, of which three are devoted to theory and three to laboratory work. In addition we have field work at the end of the semester, as well as on week-ends.

"The schools that offer instruction in geophysics besides the Colorado School of Mines are the Massachusetts Institute of Technology, California Institute of Technology, Harvard University, Columbia University, University of Pittsburgh and Lehigh University.

"The geophysical training which we give to undergraduates is, at this institution, based upon the training of the geological engineer. The geological engineer has had, in addition to training in all phases of geology, a full share of mathematics, through calculus, and physics through electricity and magnetism. In order to be qualified to enter the geophysical courses, the geology seniors are required to enroll in certain courses in mathematics and physics which have been especially designed for the need of the geophysicist. For graduate work, that is for those wishing to obtain a master's or doctor's degree with the geophysics major, the requirements are of course more rigid. Candidates for advanced degrees are required to take additional courses in mathematics, physics and geology which will enable them to attack any geophysical research problem satisfactorily.

"Despite the present economic situation and notwithstanding the general curtailment of exploration work, we have been able to place all of our graduates in very satisfactory positions."

NUMBER OF GEOPHYSICAL PARTIES EMPLOYED IN THE LAST ONE-HALF YEAR IN THE UNITED STATES IN OIL WORK

Method—	Texas and Louisiana Gulf Coast	Texas interior	Kansas, Oklahoma and New Mexico	Colorado, Nebraska, etc.	California	New York and Pennsylvania	Total crews	Average number in crew	Total men
Reflection seismic	37	7	10	2	7	3	66	10	660
Torsion balance	30	1	3	..	..	..	34	3	102
Magnetometer	4	2	5	3	3	..	17	1	17
Gravimeter and pendulums	4	..	2	..	..	..	6	3	18
Electrical	2	..	..	..	1	..	3	5	15
Total									812

Note—This does not include office force.

Salaries and Punishments Fixed By Oklahoma Proration Law

What punishment is provided for violations of the proration law now in force in Oklahoma? Is any violation made a penitentiary offense? What officials are there in addition to the umpire and what are the salaries of the umpire and the others? —S. R. D.

Oklahoma's proration law provides that if any two or more persons conspire to violate any provision of the act, each of such persons shall be subject to a fine of $5,000 or imprisonment in the state penitentiary for five years or both.

A fine of $5,000 or imprisonment in the state penitentiary for five years, or both, may be imposed against anyone who corruptly gives, offers or promises to give to any member of the commission, proration umpire, assistant or deputy proration umpire, or any agent or employe of the commission, any gift or gratuity whatsoever with an intent to influence any such officer or person in his acts or conduct with respect to his duties under this law, and the act provides a fine of not exceeding $10,000 or 10 years in the state penitentiary against any member of the commission or any such proration officer or employe who asks, receives or agrees to receive any such gratuity.

The act also provides a fine not exceeding $1,000, or confinement in the Oklahoma County jail for a term not exceeding one year, or both, for contempt of the commission in the way of disrespectful or disorderly conduct in the presence of the commission. It provides a fine of $5,000 for disobedience of any provision of the act or any of its orders, rules, regulations or judgments rendered under the provisions of the act and each day such disobedience or violation shall continue shall constitute a separate and additional contempt punishable by a fine not exceeding $5,000. Any fine or penalty assessed shall be a lien upon all the property of the offender within the State except the homestead of such offender.

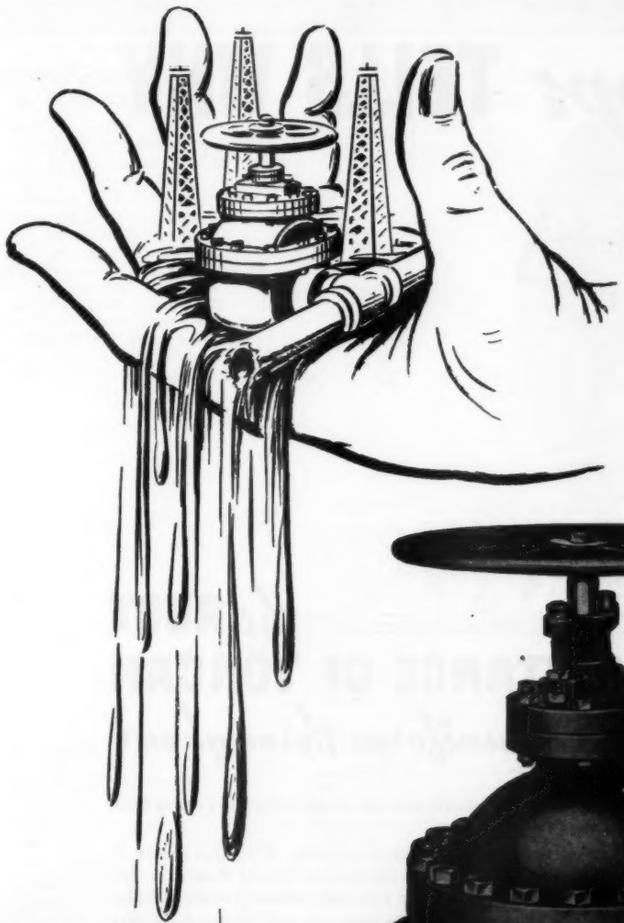
The act creates the position of proration umpire and assistant umpire. The person appointed to the position of umpire must file a bond of $50,000, the surety to be approved by the commission, and shall take the constitutional oath of office. The tenure of his office shall be at the pleasure of the commission. He shall receive a salary of $6,000 a year.

The assistant proration umpire's salary is not to exceed $4,800 a year. He shall possess all the powers and authority of the umpire, but work under the umpire's orders, and take the place of the umpire in the latter's absence or in case of the umpire's inability to perform his duties.

The proration attorney shall receive a salary of $6,000 a year. His tenure of office shall be at the pleasure of the commission. He shall be the legal advisor of the proration umpire and his assistant and deputies, and shall appear for the State in all proceedings under this act before the commission and file and prosecute charges of violation of the act, and defend in all actions taken against the State in cases relating to this act.

The act provides for the employment of not more than 30 deputies with salaries as follows: Not more than five deputies, $3,000 a year each; not more than 25 deputies, $1,800 each; all deputy proration umpires shall have had five years' practical experience in the production of oil. The act provides for clerical and stenographic help and their salaries.

When Oil Slips Through



WHAT'S the use of stopping leaks at the bung hole when the main spigot is open? Profits are oftentimes wasted in this drib drab fashion when a tight seating valve could be procured to halt the extravagance.

For the sake of economy "look into" the Darval Semi-Steel Gate Valve. A revelation is in store for you. You will find a perfectly balanced mechanism—as true and tight as a fine watch. The discs are independent of each other and independent of the wedges so they are free to revolve and change their positions on the seats each time the valve is closed, avoiding unequal wear.

Dollars Go To Waste

Manufactured of Darval Semi-Steel, Bronze mounted with ground seat faces. Also furnished with solid semi-steel seats made integral with body of valve. Either bronze or steel stem provided. For all pressures.

DARLING VALVE & MANUFACTURING CO.
Williamsport, Pa.
New York Oklahoma City Houston

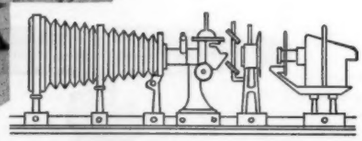
Mid-Continent Distributors:
International Supply Co.

California Distributors:
Hickey Pipe & Supply Company
3375 East Slauson Ave.,
Los Angeles, Calif.

Darval Semi-Steel Flanged End Gate Valve, Dar-a-loy trimmed. Made in all sizes for general field use, pipe lines, drilling through, well control and flow lines.

DARLING
GATE VALVES

The Microscope TELLS WHY



the RUST RESISTANCE OF TONCAN IRON IS *uniform throughout*

Year after year, users of sheets and pipe continue to buy Toncan Iron and to pay a premium for it.

There must be a reason. There *is* a reason. What that reason is you can easily learn if you put Toncan Iron to the test of service. But service tests take time and perhaps you must make a decision quickly.

So let the microscope and a metallurgist tell the story briefly: Toncan Iron is a true alloy of refined iron, copper and molybdenum, made under the most careful supervision in the open-hearth furnace by men skilled in the making of fine alloys. The addition of molybdenum to the refined copper-iron produces a metal that is structurally uniform and of fine equi-axed grain structure. This uniformity extends throughout the entire mass of the metal and imparts a uniform resistance to rust that is not confined to surfaces or segregated areas. The microscope shows the uniformity of the grain structure and the freedom from oxide inclusions. This means that when rust starts, its action is retarded by the united front presented by the uniform mass of highly rust-resistant alloy grains.

All this means a longer-lasting metal—a metal that is more economical in spite of its slightly higher cost. And this is really the reason why users of sheets and pipe buy Toncan Iron—because it is made to give more service per dollar invested.

For information on Toncan Iron Sheets—"The Path to Permanence;" on pipe—"Pipe for [illegible]rmanence." Either or both of these books will be sent on request.

REG. U.S. PAT. OFF.
TONCAN
COPPER MO·LYB·DEN·UM IRON

REPUBLIC STEEL CORPORATION
GENERAL OFFICES YOUNGSTOWN, OHIO

NATURAL GAS DEVELOPMENTS

Louisiana Leads States in Interstate Shipments

The total movement of natural gas across state lines in 1932 totaled 331,473,000,000 feet, a slight decline from 1931. This decline resulted primarily from a decrease in the demand for industrial purposes as the domestic and commercial consumption increased.

Louisiana led all the states in interstate shipments, with Texas a close second. The two largest interstate movements were those from Louisiana to Texas and from West Virginia to Ohio; these totaled 43,641,000,000 and 39,547,000,000 feet, respectively, in 1932. The interstate transportation of gas was as follows:

	M. cu. ft.
Colorado to:	
Utah	1,567,000
Wyoming	215,900
Total	1,782,000
Illinois to:	
Indiana	12,000
Indiana to:	
Illinois	6,000
Kentucky	151,000
Ohio	2,000
Total	159,000
Kansas to:	
Colorado	294,000
Illinois	719,000
Indiana	799,000
Iowa	4,641,000
Minnesota	747,090
Missouri	3,771,000
Nebraska	5,340,000
Oklahoma	415,000
South Dakota	199,000
Total	16,925,000
Kentucky to:	
District of Columbia	1,468,000
Illinois	49,000
Indiana	538,000
Maryland	163,000
Ohio	2,953,009
Pennsylvania	7,941,000
Virginia	135,000
West Virginia	6,417,000
Total	19,664,000
Louisiana to:	
Alabama	4,888,000
Arkansas	14,566,000
Georgia	3,552,000
Illinois	8,330,000
Mississippi	1,998,000
Missouri	7,673,009
Tennessee	7,661,000
Texas	43,641,000
Total	92,309,000
Mississippi to:	
Alabama	939,000
Florida	618,000
Georgia	395,000
Louisiana	2,932,000
Total	4,884,000
Missouri to:	
Illinois	223,000
Indiana	248,000
Kansas	24,000
Total	495,000
Montana to:	
North Dakota	992,000
South Dakota	2,445,000
Total	3,437,000
New Mexico to:	
Arizona	2,274,000
Colorado	102,000
Texas	3,833,000
Total	6,209,000
New York to:	
Canada	46,009
Pennsylvania	2,000
Total	48,000
Ohio to:	
Indiana	396,000
Kentucky	11,000
West Virginia	256,000
Total	663,000
Oklahoma to:	
Arkansas	529,000
Kansas	10,017,000
Missouri	3,607,900
Nebraska	39,000
Texas	1,873,000
Total	16,065,000
Pennsylvania to:	
Canada	37,000
District of Columbia	220,000
Maryland	83,000
New York	7,959,000
Ohio	1,109,000
Virginia	8,900
West Virginia	569,000
Total	9,985,000
Texas to:	
Colorado	15,227,000
Illinois	18,348,000
Indiana	8,468,000
Iowa	2,892,000
Kansas	23,160,000
Louisiana	1,031,000
Mexico	1,610,000
Minnesota	394,009
Missouri	9,822,000
Nebraska	2,677,000
New Mexico	485,000
Oklahoma	6,903,000
South Dakota	132,000
Wyoming	396,000
Total	91,535,000
West Virginia to:	
Kentucky	4,195,000
Maryland	393,000
Ohio	39,547,900
Pennsylvania	17,366,000
Total	61,501,000
Wyoming to:	
Colorado	21,000
Montana	1,204,000
Nebraska	605,000
Utah	3,970,000
Total	5,800,000
Grand total	331,473,000

TO CONTINUE KANSAS PROBE

TOPEKA, Kans., Nov. 27.—Gov. Alf M. Landon requested the legislature, in a special message to make an appropriation of $50,000 so that the State Corporation Commission might continue the gas rate litigation, now pending in the U. S. Supreme Court, and to carry on other utility rate investigations.

Shortly after hearing the governor's message, the senate ways and means committee introduced a bill appropriating $50,000 to the State Corporation Commission for the biennium ending June 30, 1935, for use in special investigations into rates, charges and practices of public utilities and holding companies.

EDMONTON RATE REDUCTION

CHATHAM, Ontario, Nov. 25.—Northwestern Utilities, Ltd., has announced a reduction in natural gas rates for the winter for domestic and commercial users in the city of Edmonton, Alberta. Based upon sales last winter the new rates represent a total saving of over $50,000 to Edmonton gas users. The new rates are optional with gas users, and retroactive in respect to all bills rendered after October 28 to April 26, 1934, as follows: First 1,000 feet, $1.90; second 1,000 feet, $1; next 58,000 feet, 30 cents per 1,000; next 940,000 feet, 25 cents; next 500,000 feet, 23 cents; all over 1,500,000 feet, 18 cents per 1,000. These rates are subject to discounts and minimum charges in existing schedules. The optional rate will be available to all domestic and commercial consumers using gas for their entire heating requirements except the use of coal in open fireplaces.

PLANES ORDERED AWAY FROM WILD GAS WELL

SHREVEPORT, La., Nov. 27.—An operations order posted at Barksdale Field, U. S. Army airport here, prohibited officers and pilots from flying planes anywhere in the vicinity of Sligo, where the Skannal unit's No. 1 McDade gasser, which blew in wild Tuesday night, is losing approximately 70,000,000 feet of gas under extreme pressure daily. Sligo Field is 10 miles from the army's field.

"The exhausts from a plane's motor might fire the place if the escaping gas is prominent at a distance from the well," Lieut. Herbert Gibner said.

California Gas Companies Issue Relief Statement

LOS ANGELES, Calif., Nov. 25.—A joint statement, issued by Addison B. Day, president of the Los Angeles Gas & Electric Corp.; A. B. McBeth, president of the Southern California Gas Co., and F. S. Wade, president of the Southern Counties Gas Co., says:

"Recognizing the acuteness of need that will confront many families of the unemployed in this locality during the next few months, the three local gas companies in this area have developed a plan of relief under Federal supervision, which will provide at nominal cost a limited but adequate supply of natural gas for cooking and other essential purposes to destitute people now receiving Federal aid.

"Under this plan the Los Angeles Gas & Electric Corp., Southern California Gas Co., and Southern Counties Gas Co. will, to the extent stated below, donate 75 per cent of the amount of gas bills incurred by those persons who are then members of the unemployed co-operative relief units registered with the Federal Relief Administrator as being 100 per cent co-operatives. These people do not receive an income sufficient to meet the bare necessities of life, and receive no monetary aid from any welfare or relief agency other than the Federal government; and exchange their labor for food supplies and other necessities of life. Each case will be individually recommended by the Federal Relief Administrator, and upon investigation and approval by the companies this gas service will be rendered.

"The foregoing plan also may be extended to members of other co-operative groups not now registered with the Federal Relief Administrator, but who are actually 100 per cent co-operative, as defined above.

"These now unregistered groups will be dealt with through local committees and will be required to perfect an organization and system for their supervision, satisfactory to the Federal administrator, and upon his recommendation and after investigation and approval by the company, gas service upon the above basis will be rendered.

"Under this plan the gas companies will donate, for the period from October 1, 1933, to January 31, 1934, to each qualified family occupying a home now having the facilities through which gas may be served, 75 per cent of the amount of the gas bill up to the following monthly allowance of the usage:

"For the month of October—Families of three members or less, 2,000 feet; families of four or five members, 2,500 feet; families of six persons or more, 3,000 feet.

"For the month of November—Families of three members or less, 2,500 feet; families of four or five persons, 3,000 feet; families of six or more persons, 3,500 feet.

"For the month of December—Families of three persons or less, 3,000 feet; families of four or five persons, 3,500 feet; families of six or more persons, 4,000 feet.

"For the month of January—Families of three persons or less, 3,000 feet; families of four or five persons, 3,500 feet; families of six or more persons, 4,000 feet."

EMPLOYES REPRESENTATION

WELLSBORO, Pa., Nov. 25.—Employes of three Standard of New Jersey companies met at the Penn Wells Hotel here to complete an organization that makes them a part of the Standard companies' employes' representation plan.

Lycoming Producing Corp., New York Natural Gas Co., and Kueka Construction Corp. were represented at the meeting, which included employes for the Tioga district, embodying Standard companies in that section of Pennsylvania and in New York state. T. R. Holder and Dallas E. Powell, of Lawrenceville, and Glenn Morris, of Syracuse, N. Y., were the representatives elected by each of the three companies.

Present at the dinner were: J. B. Tonkin of Pittsburgh, head of the Peoples Natural Gas Co.; H. A. Tiederman of New York City; J. French Robinson, vice president of Peoples and Lycoming; and L. M. Ayers, of Pittsburgh.

Pacific Gas Petitions for Rehearing on Rates

LOS ANGELES, Calif., Nov. 25.—Demand for an 8 per cent return on its investment in place of the 6 ½ per cent ordered by the State Railroad Commission in its recent gas rate reduction was made by the Pacific Gas & Electric Co. in a petition for a rehearing.

The lower rate, used as the commission's basis for ordering a $2,100,000 cut in annual income from natural gas sold to consumers in northern California, "is not reasonably sufficient to insure confidence in the fundamental soundness of the company," the petition declares.

The company attacked the recent decision as "unjust, unwarranted and unreasonable."

The company asserts that the authorization expense allowance for amortization of undepreciated capital retired by the commission's order should be $230,000 a year for five years instead of the $150,000 allowed; the annual operative charge allowed by the commission is adequate and insufficient, and allowance of $533,676 annually to amortize the $1,601,036 unamortized part of unusual and extraordinary expense incident to the introduction of natural gas is necessary under previous commission orders.

SHALLOW GAS PRODUCTION

CHATHAM, Ontario, Nov. 25.—Joe Banner of Blenheim recently completed a shallow gas well on the J. C. McGuigan farm north of Cedar Springs, Ontario. The gas, encountered in the drift, has 50 pounds pressure. A similar well, brought in several months ago on the Alex McPherson farm, is showing undiminished pressure, and there is a possibility of a fairly extensive field of "surface" gas. Similar gas production was developed years ago farther east, near Ridgetown, some of the wells being quite large. Gas is found at or near the top of the bed rock. The Ridgetown Field proved so substantial that after the production had been utilized for local purposes, the Union Gas Co. took over the producing wells.

WELL IN WASHINGTON STATE

BELLINGHAM, Wash., Nov. 25.—After four years of intermittent drilling for gas in this district, a well shot gas 100 feet into the air and drillers said it was undoubtedly "commercially profitable." The gas was struck at a comparatively shallow depth.

APPEAL AYLMER RATES

AYLMER, Ontario, Nov. 25.—Central Pipe Line Co., supplying Aylmer with gas from the Vienna and Richmond Fields, will appeal the recent decision of G. F. Henderson, natural gas referee, reducing the rate in Aylmer from 95 cents to 75 cents per 1,000.

XUM

TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the questions is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Identification of the Homologous Hydrocarbons in Petroleum

Will you please furnish information relating to methods for the determination of the homologous series of hydrocarbons occurring in a mixture as in petroleum? I should also like a reference relative to the critical data; i. e., critical temperature and pressure of hydrocarbons and how best these data may be utilized when a mixture of hydrocarbons is under consideration, as occurs in cracking operations?—E. O.

Something over 200 hydrocarbons have been separated from petroleum, many more combinations are possible, but the authorities do not claim that these have existed in the oil. Probably the lower hydrocarbons are held in solution while the higher members, together with some of the simpler ones, may in many instances be formed as a result of decomposition and rearrangement. The production of these simpler compounds may result in a similar way as to what takes place in the cracking operation. Among the earliest workers on the identification of hydrocarbons derived from petroleum was Mabery, who described members of the paraffin series as high as $C_{38}H_{78}$. See Amer. Chem. J., 33, 257, 1905. Other early investigators of this subject were Engler, Landolt, Young, Warren, Hofer and Thorpe. Many others have contributed. See Chemical Abstracts.

David T. Day in Handbook of the Petroleum Industry, Vol. 1, 460, gives a list of the hydrocarbons of petroleum, with specific gravity, melting point and boiling point. On page 457 he states: "Another reason for the large number of hydrocarbons spoken of in connection with petroleum is a result of a peculiar characteristic of the hydrocarbons themselves—of all of them to a certain extent, but of certain oils in particular. This peculiarity is the ease with which one hydrocarbon may be transformed into another through such an external agency as heat. Doubtless other forms of energy, light rays, electricity, etc., may be equally potent, but their effects are less known. . . . If any clear water-white oil, kerosene or gasoline, be partly distilled, no matter how gently, the residue will promptly darken in color, and the products will vary with the temperature of distillation. If the oil is distilled at atmospheric pressure the products obtained will differ from those obtained by distilling at the lower temperature under vacuum. Even where the heating of a hydrocarbon mixture is so controlled as to avoid cracking of the constituents into hydrocarbons of greatly different boiling points, there is every reason to believe that many changes in the structure of the hydrocarbons are constantly taking place. It may be generally stated that few hydrocarbons can long remain entirely unchanged at their boiling points."

Much progress has been made by investigators who have, within the past 10 years, perfected methods for the determination of certain physical properties which have enabled them to separate and identify many hydrocarbons. W. K. Lewis, under Properties of Hydrocarbon Mixture, The Oil and Gas Journal, October 19, 1933, page 14, explains this: "Thus, one can predict the vapor pressure curve of an unknown hydrocarbon over a considerable range from the knowledge of a single point on that curve, with no other information whatsoever as to the nature of the hydrocarbon; if, in addition to this one point, one knows the molecular weight and the density of the hydrocarbon, one can estimate the whole vapor pressure curve with reasonable precision from these three bits of information and nothing else. Indeed, it is not impossible that a knowledge of three characteristics of an unknown hydrocarbon, properly chosen, may turn out to be sufficient to determine all its more important physical properties."

Analyses of hydrocarbon mixtures are readily made by the low-temperature fractionation method; see New Developments in Laboratory Control of Refining and Natural Gasoline Manufacture, by W. J. Podbielniak, The Oil and Gas Journal, March 31, 1932, page 68. The apparatus and method is suitable for the analysis of natural gas and gasoline, refinery and manufactured gases, absorption oils and motor fuels, petroleum crudes, etc., for their content of lower boiling hydrocarbons determined individually, such as methane, ethane, ethylene, pentanes, etc., up to and including octanes.

Brown and Souders, Jr., discuss the "Properties of the Paraffin Hydrocarbons and Design of High Pressure Equipment," in The Oil and Gas Journal, May 26, 1932, page 41. "Properties of Paraffin Hydrocarbons," by Wayne C. Edmister and Charles Buskel, The Oil and Gas Journal, July 2, 1931, page 22, and "Thermal Properties of Oil Fractions," by Wayne C. Edmister, The Oil and Gas Journal, February 25, 1932, page 50, are articles illustrated by convenient charts.

Term 'Superior' Has No Technical Meaning in Oil Industry

Superior is a word meaning of higher excellence, but it has occurred to me that it may have a particular meaning in the oil industry as denoting a special grade of oil. Perhaps it may be used in market quotations to indicate a standard grade of oil o indicate a certain quality. What I desire to learn is whether this word, superior, has any such meaning peculiar to the oil trade, either generally or in oil marketing quotations?—J. H.

The word superior has no technical or special meaning in any branch of the petroleum industry; that is, the ordinary dictionary definition is appropriate. It is true that the word is used in marketing in various ways; as "Superior to U. S. Motor Gasoline," meaning that a particular gasoline is of better quality than one meeting the specifications for the grade of gasoline known in the trade as United States Government Motor Gasoline. In a similar way the trade may say that a lubricating oil is superior to another in some particular respect; viscosity, for example.

Superior cannot be confused with such expressions as "high test," which has been used for some years to mean high gravity, or the more recently adopted system for grading motor fuels on the basis of antiknock value in terms of octane numbers. The word has been used with gravity and octane number but always as a relative term, simply meaning that a certain product is better in this respect than some other. Used alone the word would certainly be quite indefinite; such as superior crude oil, superior gasoline, and superior lubricating oil.

Houdry Process for Making High Octane Value Gasoline

A new process for making gasoline of high octane value, called the Houdry process, has been mentioned. Have you any details about this?—G. D. S.

The Houdry process is one for the manufacture of high grade gasoline having a knock rating 75 to 85 octane number with low gum and sulphur content. The method was described in The Oil and Gas Journal, October 19, 1933, page 12.

The operation is based on the use of a catalyst and mild cracking at substantially atmospheric pressure. The charging stock may be run to a yield equal to or somewhat higher than that of liquid-phase cracking, or to a yield of 35 to 50 per cent, depending upon the stock, and the residual oil cracked in a conventional plant. The residue is always a clean stock of gas oil boiling range.

The Houdry plant makes use of standard refinery equipment, with the addition of catalyst cases and the regenerating system. The only important difference from the usual cracking plant is that the catalyst cases are substituted for the reaction chamber. The typical operations involved are:

1. Vaporization of the petroleum oil with a small quantity of steam, in the temperature range of 775° to 875° F. and at substantially atmospheric pressure. Cracking must be limited during the vaporization to the extent usually effected in good topping still operation.
2. Passing the mixture of oil vapor and steam at the specified temperatures and pressures overmolded, solid catalyst contained in cylindrical steel cases, which are provided with a system for regenerating the catalyst in place.
3. Separating the converted product from the catalyst case into gasoline and recycle oil in a bubble tower.
4. Removing the recycle oil to a run-down tank and the gasoline, steam and fixed gas to a condenser and separator.
5. Recovering gasoline from the fixed gas by conventional methods.

Smoke Point of Kerosene By the I. P. T. Method

Can you give me the particulars about the test for smoke point of burning oil, which I understand has been developed in England?—D. G. E.

There were several papers presented before the World Petroleum Congress, held in London, July 19 to 25, 1933, relating to the burning qualities of kerosene, among these were: "Testing Lamp Kerosenes," by Moerbeek; "Chemical Significance of Tendency to Smoke," by Minchin; "Testing of Kerosene for Illuminating Purposes," by Jackson; "Calculation of the Smoke Point of Kerosene Without the Use of a Lamp," by Gilbert; "Development of Methods of Measurement of Tendency to Smoke," by Woodrow. The smoke point was mentioned in several of these papers as a fundamental property relating to the quality of kerosene. Copies of these papers may be obtained at 1s. each from the Institution of Petroleum Technologists, Aldine House, Bedford Street, London.

A committee of the Institution of Petroleum Techologists has arranged a standard method for making the smoke point test, the details being given in the Journal of the Institution of Petroleum Technologists, September, 1933, page 812.

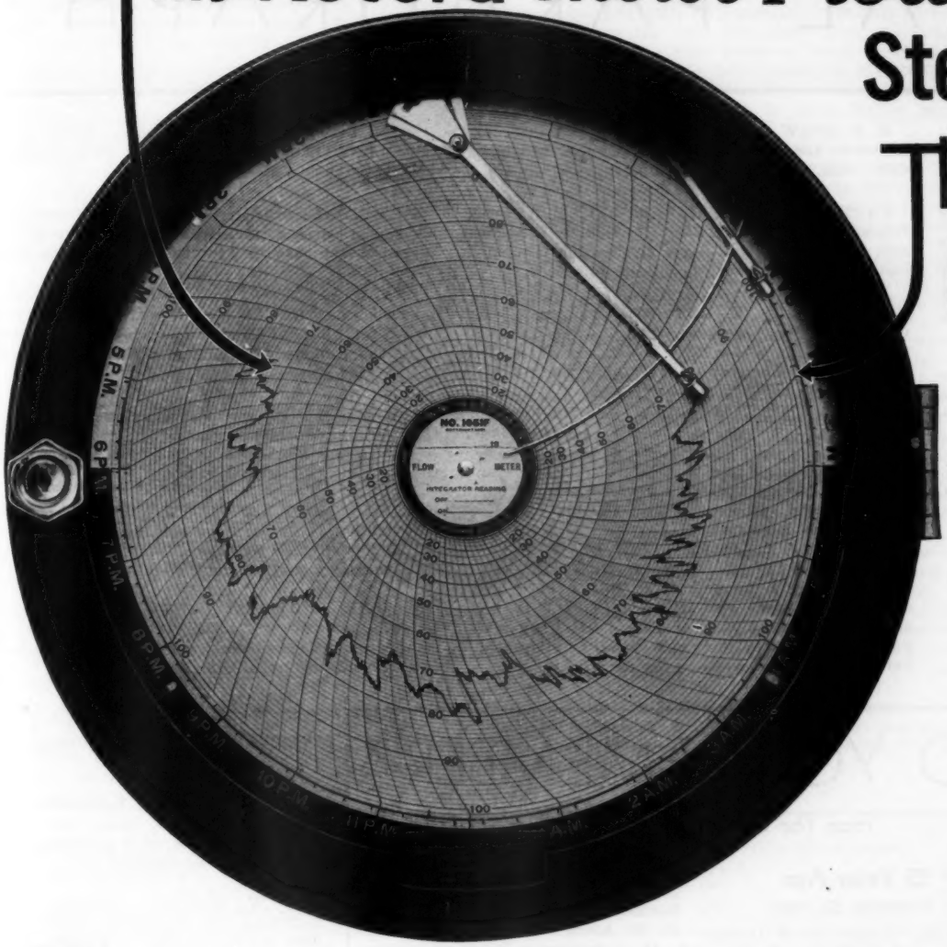
The object of the test is to evaluate a kerosene according to its ability to burn, in a conical flame, without producing smoke. A special lamp is described and illustrated. The lamp is provided with a scale, graduated in 1 mm. for measuring the height of the flame, and a device for raising or lowering the flame. A special wick is specified.

The actual test method requires the use of an extracted and dried wick, which is soaked in the sample and placed in the wick holder, which is then screwed into the oil holder, inserted into the lamp and the wick lit.

The wick is adjusted so that the flame is about cm. in height, and the lamp left to burn for five minutes. Five or six determinations are then made by raising the wick until a smoky flame is produced and then lowering it until the smoky tail just disappears. (Raising the flame until this point is reached is not satisfactory). The height of the flame at this point is carefully read in millimeters from the scale, the eye of the observer being about 9 inches from the front of the instrument, and the mean of the determinations recorded as the smoke point.

With proper care and attention to details, duplicate results should agree within 1 millimeter.

This Record *Shows Flow* of Oil–Gas–Steam or Water



This *Extra* Record *Shows When* it is Delivered and *How Much!*

Can you tell quickly and accurately just how much oil, gas, steam or water passed through those pipe lines at any time of day or night?

On the clear, openly-graduated chart of the Brown Electric Flow Meter, you get two records . . . .

One—An accurate, reliable record of the flow of fluid.

Two—An extra record shows in volume units just how much fluid is delivered and the time of day or night it is delivered. Plainly inked on the rim of the chart, it gives you positive proof that a definite number of barrels of oil, cubic feet of gas, pounds of steam or gallons of water were delivered —used—or wasted.

Thousands of oil engineers are getting this double service from the Brown Electric Flow Meter. Get full details about this different meter—learn of its many other outstanding features—send for Catalog No. 2002.

Send for this Catalog No. 2002.

THE BROWN INSTRUMENT COMPANY
4488 Wayne Avenue Philadelphia, Pa.
Branches in 22 Principal Cities.

Brown Electric Flow Meter

on the Inductance Bridge Principle

PERSONAL PARAGRAPHS

JOHN MABEE recently flew from Houston, Tex., to Tulsa in 2 hours and 15 minutes, a record.

* * *

V. R. GARFIAS, of the foreign department of the Cities Service Oil Company, will return this week from a trip to points in Mexico.

* * *

A. G. WICKENHOEFER, in charge of sales and marketing for the Gulf Refining Company at San Antonio, Tex., has been transferred to the Laredo, Tex., district.

* * *

GEORGE E. SMITH, of San Antonio, Tex., who brought in the discovery well of the Greta Field in Refugio County, Texas, is on a trip around the world and was last heard from at Shanghai, China.

* * *

J. D. COLLETT, Fort Worth, Tex., general chairman of the Regional Planning and Co-ordination Committee for Region No. 4, has returned home from a week's conference at Washington, D. C.

* * *

* * *

L. E. JUDD, director of public relations, Goodyear Tire & Rubber Company, Akron, Ohio, has been appointed director of advertising, in addition to his former duties. C. T. HUTCHINS is advertising manager.

* * *

ROY LUNDY, purchasing agent of the Tulsa Rig, Reel & Manufacturing Company, has returned from his annual hunting trip in Mexico.

* * *

J. EDGAR PEW, executive vice president of the Sun Oil Company, Philadelphia, Pa., is in Texas visiting the company's offices at Dallas and Beaumont.

* * *

CECIL COUTTS and daughter Maioma, who have been spending the past few months at Comber, Ontario, have left for the Burmah oil fields, where Mr. Coutts is employed as a driller.

* * *

D. E. BUTTS, superintendent for the Standard Oil Company of Kansas at Conroe, Tex., has been transferred to Refugio, Tex., where he will have charge of the company's operations at Greta.

* * *

B. K. STOCKTON, Greggton, Tex., has been made superintendent for the Gulf Production Company in that area. He takes the place of AUBREY SCHOFIELD, who has been transferred to southern Louisiana.

* * *

RALPH O. DEITLER, of Tulsa, vice president of the Stanolind Crude Oil Purchasing Company, was in Denver, Colo., last week on account of the death of his mother, who received fatal injuries in an automobile accident.

* * *

W. C. JOSEY, president of the Rancho Oil Company, Gem Oil Company and Polk County Oil Company, with headquarters at Fort Worth, Tex., has been spending some time in the Gulf Coast district in the interest of his companies.

* * *

FRANK R. CLARK, president of the American Association of Petroleum Geologists, was a visitor in Denver, Colo., the past week and spoke before the Rocky Mountain Association of Petroleum Geologists. While in the State he visited the northeastern area.

S. F. SHAW has been retained as consulting engineer by the Westgate Oil Company of Oklahoma City, Okla.

* * *

CAPT. J. A. DUFF-ROBERTSON, of Victoria, British Columbia, has resigned from the directorates of the McDougall-Segur Exploration Company, and the New McDougall-Segur Oil Company.

* * *

MR. and MRS. E. L. BAIRD, who have been visiting for some weeks in Petrolia and Toronto, have left Canada for Negritos, Peru, where Mr. Baird has a three-year contract with the International Petroleum Company.

* * *

J. F. ADAMS, sales manager for Barnsdall Refineries, Inc., with headquarters at Milwaukee, Wis., is recovering from an operation for acute appendicitis, having spent several weeks in Mount Sinai Hospital, Milwaukee. He is able to spend part of each day at his desk.

* * *

"TUBBY" VAUGHN, of the International Petroleum Company refinery staff at Talara, Peru, was married at Toronto to MISS McDOUGALL, formerly of the office staff at Talara. Mr. and Mrs. Vaughn have left on their honeymoon to Vancouver, British Columbia, en route for Peru.

A. M. BOWMAN, western manager, Parkersburg Rig & Reel Company, Tulsa, was in St. Louis, Mo., last week on business.

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DR. SIDNEY BORN, consulting engineer and head of research at the Tulsa University, in Tulsa, spent several days in Ardmore, Okla., in the past week.

* * *

JACK VAUGHN, for several years petroleum engineer for the Gulf Production Company, Houston, Tex., has resigned to organize a company to operate in East Texas.

* * *

J. R. McKINNON, assistant superintendent, Spartan Refining Company, Shreveport, La., has been moved to the Muskogee, Okla., plant of the Pure Oil Company for special study.

* * *

M. M. KINLEY and FLOYD KINLEY, oil well fire fighters, of Tulsa, have been at Louise, Wharton County, Texas, fighting a fire in one of Pure Oil Company's wells in that area.

* * *

WALTER C. TEAGLE, president of the Standard Oil Company of New Jersey, has been named on the committee appointed by the U. S. Chamber of Commerce to investigate recovery codes.

* * *

L. L. ARMS, of Pasadena, Calif., has moved to Houston, Tex., to become associated with the Flagg Oil Company.

* * *

GILLETTE HILL, independent oil operator, Houston, Tex., has been spending the past week in Tulsa, making the trip by airplane.

* * *

H. W. MOONEY, engineer, with Barnsdall Oil Company, Tulsa, has been working in the Iowa Field, Louisiana, during the last few weeks.

* * *

F. D. BOSTAPH, sales manager for the Texas Pacific Coal & Oil Company, Fort Worth, Tex., has returned from a business trip to Kansas City, Minneapolis, Chicago and other northern cities.

* * *

GERALD S. LAMBERT, has recently joined the geophysical department of the Shell Petroleum Corporation, Tulsa. He was formerly with Phillips Petroleum Company, Bartlesville, Okla.

* * *

A. R. WILSON, division manager of the producing department of the Texas Company, for the Rocky Mountain division, has returned to Denver, Colo., headquarters from a business trip through Wyoming.

* * *

A. FRAZIER, president; H. H. ANDERSON, vice president, and W. VAN HOLST PELLEKAAN, vice president, all of the Shell Petroleum Corporation, have returned to their headquarters in St. Louis, Mo., after a visit to the Houston, Tex., offices.

* * *

GORDON GRIFFIN, petroleum engineer, who has been in charge of the engineering department of the Texas Railroad Commission, Kilgore, for seven months, coming from the Gulf Coast district, has resigned that position, effective December 1 to take a position as petroleum engineer for W. B. HAMILTON, Wichita Falls, Tex., operator.

DO YOU REMEMBER?

From The Oil and Gas Journal Files

25 Years Ago

November 29, 1908

Seth Ely, former South Dakota banker and J. E. Tomlinson, Texas oil operator, have fitted up offices in the new Central Bank Building in Tulsa and will operate their extensive holdings from the new Mid-Continent oil metropolis.

J. G. McGannon, president of the Central National Bank in Tulsa, and owner of the Central National Bank Building, died suddenly on November 27. J. E. Crosbie succeeds Mr. McGannon as president of the bank.

N. V. V. Franchot is president of the Mid-Continent Oil and Gas Producers Association.

20 Years Ago

December 4, 1913

Robert Watchorn, of Los Angeles, Calif., affiliated with the Union Oil Co., is an Oklahoma visitor. He is interested in the Red River Oil Co., which is drilling in southern Oklahoma.

The Caney River Gas Co., Osage & Oklahoma Co., Oklahoma Fuel Supply Co., and United Fuel Supply Co. have been merged into the Oklahoma Natural Gas Co.

The Exchange National Bank of Tulsa, which had $404,674 in deposits at the beginning of 1910, has grown rapidly in less than four years and now has deposits of $3,020,065.34. P. J. White is president. D. F. Connolly, H. F. Sinclair, E. W. Sinclair, J. H. Evans, R. M. McFarlin, R. S. Litchfield, J. A. Hull, Thomas White, O. H. Leonard and Homer Preston are on the board of directors.

Many prominent Texas oil operators and oil executives have invaded southern Oklahoma, following the opening of the Healdton Field. Lease prices have gone sky high on all sides of the Healdton Field.

10 Years Ago

November 29, 1923

The Powell Field, Texas, following its one-day peak of 354,803 bbls. on November 13, has been rapidly declining, and in two weeks has fallen to 222,000 bbls. per day.

C. C. Olson, head of the economics department of the Marland Oil Co., has resigned to resume the practice of law.

Capt. N. V. V. Franchot, of Olean, N. Y., takes a party of friends to the 23,000-acre game preserve in McCurtain County, Oklahoma. In the party are Ban B. Johnson, president of the American Leage of Baseball Clubs; Phil Ball, owner of the St. Louis Browns; Clint Moore, H. P. Anderson, George S. Davis, J. J. Larkin, Deverne Vensel, Barney Horrigan, and Douglas Franchot of Tulsa. The camp is 15 miles from a railroad.

William August Springer, of Kennedy & Springer, Tulsa, pioneer producer of oil in the Osage County Field in Oklahoma, died November 26. Kennedy & Springer sold their Osage holdings in 1917 for $12,600,000 and retired from the oil business.

W. B. EMERY, of Casper, Wyo., chief geologist for the Ohio Oil Company, was a Denver, Colo., visitor this week.

* * *

G. I. McBRIDE, petroleum engineer for the Texas Company, Shreveport, La., is spending a vacation in Arkansas.

* * *

H. T. McCLAIN, independent operator of Lake Charles, La., has been enjoying a vacation spent in New Orleans, La.

* * *

C. J. WARD, petroleum engineer for the Shell Petroleum Corporation, has been transferred from Kilgore, Tex., to Orange, Tex.

* * *

MARSHALL JOY, formerly superintendent for the Empire Gas & Fuel Company, at Hull, Tex., now is stationed in Michigan.

* * *

FRED S. COOK, of the legal department of the Sinclair Prairie Oil Company, has been spending a few days in Houston, Tex.

* * *

O. R. SEAGRAVES, who heads a group of companies affiliated with the Moody-Seagraves interests, spent several days in Houston, Tex., following an extended stay in the East.

* * *

JOHN R. MacGREGOR, sales manager of the Eagle-Picher Lead Company, of Cincinnati, Ohio, has been named adviser to the NRA at the hearings for the dry color industry.

* * *

I. I. GARDESCU addressed the regular meeting of the Houston Geological Society, November 23, on "The Occurrence and Significance of Dry Gas Accumulation in the Association With Oil."

* * *

H. C. DEAN and R. S. DEAN, of Wichita Falls, Tex., have moved to San Antonio, Tex.

* * *

MARRS McLEAN, independent operator of Beaumont, Tex., has recently returned from an extended trip to different points in West Texas.

* * *

IRA H. STEIN, geologist with the Continental Oil Company, has been transferred from the company's Houston, Tex., office to the office at San Antonio, Tex.

* * *

E. L. BAIRD, associated with the International Petroleum Company, Ltd., with MRS. BAIRD, left New York City, Saturday on the Grace liner, Santa Clara for South America.

* * *

J. FABER HANST has sailed from New York for an extended trip through the oil fields of Rumania, Germany and Poland, returning to New York about March 1, 1934.

* * *

W. J. ZICK, of the Standard Oil Company of New York, has been chosen an adviser to the NRA at the hearings for the insecticide division of the insecticide and disinfectant industry.

* * *

COL. J. F. DRAKE, president of the Gulf Oil Corporation, Pittsburgh, Pa., arrived in New York City, November 23 on the Conte Di Savoia of the Italian line. Colonel Drake embarked at Genoa.

* * *

HOMER McDUFF, formerly production superintendent for the Pure Oil Company in the Gulf Coast, Louisiana, district, has been given a position with the Standard Oil Company of Venezuela and will leave soon for his new headquarters at Capito, Venezuela.

* * *

G. A. RENARD, secretary of the National Association of Purchasing Agents, New York City, addressed a meeting of the Mid-Continent Purchasing Agents in Tulsa on the evening of November 20. He spoke before another meeting of purchasing agents in St. Louis, Mo., on the evening of November 21.

Filled Many Oil Jobs in His Time

H. A. Melat, who in April, 1933, retired from active duty as superintendent of production for the Gulf Production Company, was in charge of all that area extending from Oklahoma on the north to the Rio Grande on the south and from Fort Worth, Tex., on the east to New Mexico on the west.

H. A. MELAT

Mr. Melat was born in Venango County, Pennsylvania, and he was 16 when oil was struck on his father's farm. His first oil field job was on the construction of a small pipe line in the Bullion Field. At 18 he began working regularly as roustabout, gauger and pumper in the Bradford Field.

In 1880 Mr. Melat went to the Richburg Field in New York as farm boss for the Hayes, Book & Garland Oil Company. There followed several years in pipe line work. In 1898 he was engaged by the Demming Investment Company to install a gas distributing system in Parsons, Kans. He returned later to the producing branch of the oil business, and in 1901 he was developing properties in Spindletop, Tex., for the Star Oil Company, among organizations later consolidated into the Gulf Production Company. In 1910 he was transferred to Shreveport, La., as district superintendent.

Mr. Melat was transferred to Fort Worth in 1918 in time to participate in the development of the Ranger, Eastland, Breckenridge and Wichita Falls areas. Then came the job of developing the Gulf's properties in the Panhandle and West Texas.

JULIAN THOMAN and LEE WORTH, of Tulsa, were in Casper, Wyo., last week.

* * *

DR. A. E. DUNSTAN, F.I.C., chief chemist of the Anglo-Persian Oil Company, has returned to England after his visit to the United States.

* * *

JOHNNY HORNBECK, formerly connected with the Vacuum Oil Company, who has been making headquarters at Houston, Tex., has moved to San Antonio, Tex.

* * *

HARRY FRAZEE, representative for the Wilson Manufacturing Company in the East Texas Field, Kilgore, is spending a couple of weeks visiting relatives in Kansas City, Mo.

* * *

W. W. ROBINSON, JR., formerly director of gas research with the Texas Company at Beacon, N. Y., is now chief chemist with the gasoline division of the Texas Company at Long Beach, Calif.

* * *

COL. H. C. HICHLING, general manager of Apex (Trinidad) Oilfields, Ltd., who has been visiting in London, has returned to Trinidad with L. A. BUSHE, drilling superintendent of the Apex.

* * *

H. BLOOMGARTEN, Royal Dutch-Shell Company, of The Hague, Holland, is making a trip of inspection of the Gulf Coast properties of the Shell Petroleum Corporation, and expects to visit other Texas fields before returning to his home.

* * *

VOLNEY ACHESON, in the geophysical department of the Humble Oil & Refining Company, was married to MISS EDWENA ILEY of Mexia., Tex., on November 17. They will be at home in DeRidder, La., where Mr. Acheson has headquarters at present.

* * *

FRED FRARY and JOHN TORVUND, employes of the Standard Oil Company (Indiana) refinery at Greybull, Wyo., were recently awarded gold service buttons in recognition of 10 years of continuous service. To date the company has awarded 66 gold pins for 10 years of continuous service to employes of the Greybull refinery.

MARION ESTES, petroleum engineer, is now in the engineering department of the Texas Railroad Commission, with headquarters at Kilgore, Tex.

* * *

A. R. EPPENAUER, drilling contractor and producer in West Texas, with headquarters at San Angelo, has returned from a trip to Pittsburgh, Pa., by air.

* * *

GEORGE G. BOWDEN, of Flagg Oil Company, Oklahoma City, Okla., has been inspecting the Gulf Coast fields, making his headquarters in Houston, Tex.

* * *

R. W. LOWE, general superintendent for the Standard Oil Company of Louisiana, has moved from Shreveport out to his country home on the Mooringsport Road.

* * *

H. H. FARNHAM, chief engineer of the Baroid Sales Company, formerly having headquarters at Los Angeles, Calif., has been transferred to the Houston, Tex., office.

* * *

R. S. SHANNON, of Denver, Colo., division superintendent of production for the Rocky Mountain district for the Continental Oil Company, was in Wyoming the past week.

* * *

W. G. GISH and HERB SMITH, both vice presidents of the Sinclair Prairie Oil Company, of Tulsa, have been conferring with the officials of the Houston office of the company.

* * *

AUBREY SCHOFIELD, division superintendent for the Gulf Production Company, Greggton, in the East Texas Field, has been temporarily transferred to the southern Louisiana district.

* * *

G. J. SEVIER, formerly in the scouting department of the Pure Oil Company, but who has been in the producing department in the Van Field for two years, has been transferred to the scouting department with headquarters in Tyler, Tex.

* * *

ELTON RHINE, of the Empire Gas & Fuel Company, has been made president of the Gulf Coast Oil Scouts Association, with DOUGLAS WILLIAMS, Humble Oil & Refining Company, vice president, and GEORGE ROBINSON, Pure Oil Company, secretary-treasurer.

* * *

THURMAN H. MYERS, manager of the Penn United Gas Company, at Wellsboro, Pa., addressed the Pennsylvania Natural Gas Men's Association in session at Pittsburgh, Pa., on "Geology, Discovery, and Development of the Oriskany Sand in Pennsylvania."

* * *

WILLIAM A. ROEVER, sales engineer, has been transferred from the Houston, Tex., office of the Continental Supply Company, to the Wichita Falls, Tex., office and placed in charge of that district which covers North Central Texas and the Texas Panhandle.

* * *

E. H. TOLLEFSON, engineer, Lycoming Producing Company, has left Wellsboro, Pa., for Clarksburg, W. Va., where he has been named superintendent of oil production for Hope Natural Gas & Engineering Company, a Standard of New Jersey company. MRS. TOLLEFSON will join her husband at Clarksburg soon. They have been residents of Wellsboro for two years.

* * *

PETER PRUNTY, widely known in easern marketing circles as the general sales manager of the Warner-Quinlan Company, New York City, last week became the father of a thirteenth heir born to MRS. PRUNTY on November 22. The Prunty family consists of nine boys and four girls which is said to establish something of a record among eastern oil men. Mr. Prunty recently was elected president of the Catholic Laymen's Retreat League of Long Island.

XUM

Wildcat Operations in Gulf Coast

(Continued from Page 52)

Humble O. & R. Co.'s No. 9 M. Gubbles, Sam Kennedy Sur., 314 ft. SE of No. 7 ..... Shale 5,336 ft.
Humble O. & R. Co.'s No. 9-A George, J. Rabb Sur., 1,527 ft. E of No. 4-A ..... Comp. 54 bbls. per hr.; ⅝-in. choke, 5,350 ft.
Humble O. & R. Co.'s No. 18-B Lockwood & Sharp ..... Rigging.
Humble O. & R. Co.'s No. 21 Lockwood & Sharp, John Rabb Sur. ..... T.D. 5,287 ft.; standing.
Humble O. & R. Co.'s No. 25-A Lockwood & Sharp, John Rabb Sur., 2,872 ft. W of E line, 379 ft. S of N line of survey ..... Drlg. sand 48 ft.
West-Len Oil Co.'s No. 1 Mulahill, 300 ft. N of S line, 300 ft. W of E line ..... No report.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 27 J. M. Moore, 4,842 ft. W line of J. Frazier Sur., 275 ft. E at right angles to lease ..... Comp. 504 bbls. per day; ⅛-in. choke, 3,486 ft.

SUGARLAND—FORT BEND COUNTY

Dewalt Oil Co.'s No. 1 Peterson ..... Derrick.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 3 Broussard-Orme, Martin Dunman Sur., 300 ft. S of No. 1-B Cade ..... Drlg. hard sand 3,304 ft.
Yount Lee Oil Co.'s No. 18 Cade, 600 ft. NW of No. 1-B Cade, 755 ft. from No. 1 Smith, N. Fitzsimmons Sur. ..... P.B. to 4,042 ft.
Yount Lee Oil Co.'s No. 37 Cade, N. Fitzsimmons Sur., 600 ft. S of No. 36 ..... Drlg. sand 5,462 ft.
Yount Lee Oil Co.'s No. 1-B Smith ..... Drlg. sand 4,986 ft.
Yount Lee Oil Co.'s No. 19 Smith, Martin Dunman Sur., 150 ft. N at right angles from center of line between 14 and 15 ..... Drlg. salt 4,438 ft.

ARRIOLA—HARDIN COUNTY

Republic-Houston Oil Co.'s No. 6 Arriola fee, 2,150 ft. S of N line, 5,050 ft. E of W line of lease, Arriola Sur. ..... Derrick.

BATSON—HARDIN COUNTY

W. G. Christian's No. 1 Buchanan, J. Milhone Sur., 1,300 ft. W of E line, 50 ft. N of S line, Strip 17 ..... Fishing 2,150 ft.
Danciger O. & R. Co.'s No. 2 Hooks, W. Donoho Sur., 320 ft. E of C of W line, Blk. 24 ..... Drlg. shale 4,050 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 103 fee, C. F. S. Jordit Sur., 50 ft. N of No. 98 ..... Comp. 10 bbls. net oil daily 985 ft.
Seismo Oil Co.'s No. 1 Casewell, 940 ft. S of NW cor. and 600 ft. from E line, B.B.B.&C. Sur. ..... Drlg. gumbo 2,165 ft.

SOUR LAKE—HARDIN COUNTY

Arlis Pet. Co.'s No. 1 Sour Lake Bank, H.&T.C. Sur., NW cor. Blk. 11, Sec. 69 ..... T.D. 3,050 ft.; standing.

GOOSE CREEK—HARRIS COUNTY

Gulf Prod. Co.'s No. 17-A Tabb, Wm. Scott Sur., 1,288 ft. N line, 50 ft. E line (W.O.) ..... Drlg. shale 4,502 ft.
McPhail & Atkins' No. 1 Harral, Wm. Scott League, 600 ft. W and N from Humble's No. 1 Harral ..... Derrick.
Smith-Faust's No. 1 Washington-Texas Prod. Co., Wm. Scott Sur., 200 ft. W of E line, 75 ft. S of N line, 2 acres ..... T.D. 3,065 ft.; cmtd. csg.

HUMBLE—HARRIS COUNTY

Texas Co.'s No. 27 House, M. O. Owens Sur., 430 ft. NW of No. 8 ..... Drlg. shale 2,948 ft.
Wilson Pet. Co.'s No. 1 Cicero (W.O.) ..... Fishing 3,680 ft.

MYKAWA—HARRIS COUNTY

Crown-Framer Oil Co.'s No. 2 Minnetex, 100 ft. N line, 100 ft. E line, of W½ Blk. 251, Wm. Lovett, Sur. (W.O.) ..... Pulling screen; T.D. 4,878 ft.

PIERCE JUNCTION—HARRIS COUNTY

Gulf Prod. Co.'s No. 37 Taylor, 980 ft. S, 975 ft. W of NW cor. J. Hamilton Sur. No. 52 ..... Drlg. shale 3,527 ft.
Rio Bravo Oil Co.'s No. 25-A Settegast, 625 ft. W, 525 ft. N of SE cor. A lease, J. Kopman Sur. (W.O.) ..... T.D. 4,421 ft.; to sidetrack.

TOMBALL—HARRIS COUNTY

Amerada Pet. Corp.'s No. 1 Bode, J. Hooper Sur., 686 ft. from E and W lines, 320 ft. from S line of lease ..... Derrick.
Amerada Pet. Corp. et al's No. 1 Fletcher, J. House Sur., 163 ft. N line, 1,852 ft. S line of lease ..... Shale 5,591 ft.; cmtd. csg.
Humble O. & R. Co.'s No. 2-B Kobs, 466 ft. out SE cor. 200-ac. tract, J. Edwards Sur. ..... Drlg. shale 5,575 ft.
Humble O. & R. Co.'s No. 1 Kuehn, 1,399 ft. out of the SW cor. W. Usener Sur., 200-ac. tract ..... Drlg. shale 3,788 ft.
Humble O. & R. Co.'s No. 1 Shearer, J. N. Hooper Sur., 466 ft. out of NE cor. of 80-ac. tract ..... Drlg. shale 3,988 ft.
Humble O. & R. Co.'s No. 1 Treichel, 466 ft. from SW cor. 109-ac. tract, C. Goodrich Sur. ..... Derrick.
Magnolia Pet. Co.'s No. 1 Rudel-Oster, J. House Sur., 2,664 ft. S line, 163 ft. W line ..... Set screen 5,620 ft.
Texas Co.'s No. 1 Hirsh, J. House Sur., 466 ft. N, 500 ft. E of SW cor. of 61-ac. tract ..... Comp. 20 bbls. per hour; ¼-in. choke, 5,591 ft.
Texas Co.'s No. 1 Scherer, J. House Sur., 410 ft. E, 466 ft. N of SE cor. ..... Comp. 16 bbls. per hr.; 15/64-in. choke 5,586 ft.

FANNETT—JEFFERSON COUNTY

Black Gold Oil Co.'s No. 1 Jackson, Wm. Smith Sur., 2,766 ft. S line, 117 ft. from W line (356) ..... Abd. 5,916 ft.
Gulf Prod. Co.'s No. 14 Thomas, 951 ft. W, 100 ft. N of SE cor. of 446-ac. tract, Wm. Smith Sur. ..... Drlg. shale 2,405 ft.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Co.'s No. 7 Davis (W.O.), Duncan Sur. ..... Drlg. shale 7,449 ft.
Cranfill-Reynolds Co.'s No. 11 Moores Bluff, Duncan Sur., 2,100 ft. from N line, 1,049 ft. from E line of 632-ac. tract ..... Drlg. sandy shale 5,543 ft.

HULL—LIBERTY COUNTY

Eclipse Oil Co.'s No. 1 Ward, (W.O.) Jesse Devore Sur., 50 ft. S, 50 ft. W of NE cor. Empire G. & F. Co.'s 13 acres ..... Comp. 51 bbls. a day, 5,540 ft.
W. B. Flynn's No. 2 Flynn, J. Devore Sur., 25 ft. S No. 1 ..... T.D. 1,900 ft.; standing.
Hannah Oil Co.'s No. 1 Hannah, J. Devore Sur. (W.O.) ..... Rigging.
Hannah Oil Co.'s No. 2 Hannah, J. Devore Sur. ..... Derrick.
Humble O. & R. Co.'s No. 28 Hooks-Guedry, 100 ft. S, 15 ft. E line of lease, J. Devore Sur. ..... Drlg. shale 4,208 ft.
Humble O. & R. Co.'s No. 29 Hooks-Guedry, J. Devore Sur. ..... Drlg. shale 4,216 ft.
Liberty-Hull Oil Co.'s No. 2 Mecom fee ..... Rigging.
Miramar Oil Corp.'s No. 1-B Phoenix, J. Devore Sur., 155 ft. from N line, 700 ft. from W line of lease ..... Comp. 5,305 ft.; 163 bbls. a day.
Miramar Oil Corp.'s No. 5 Phoenix Dev. Co., J. Devore Sur., 50 ft. from NW cor. of 25-ac. lease ..... Comp. 65 bbls. per hr.; 4,451 ft.
Sun Oil Co.'s No. 1 Corr, 50 ft. each way out of NE cor. of 60-ac. tract, J. Devore Sur. ..... Drlg. shale 4,118 ft.
Yount Lee Oil Co.'s No. 3 Hooks-Sterling, Jesse Devore Sur., 153 ft. S of N line, 150 ft. W of E line of 5-ac. tract ..... Drlg. sand 4,491 ft.; showing oil.

LIBERTY FIELD—LIBERTY COUNTY

Ross Oil Co.'s No. 1 Richardson, M. G. White Sur., 120 ft. E of Gulf-Humble's No. 1 Carter ..... Derrick.

CONROE—MONTGOMERY COUNTY

Alpha Pet. Co.'s No. 5 South Tex. Dev. Co., 466 ft. N line, 933 ft. E of No. 1, T.&N.O. No. 13 Sur. ..... Csg. cmtd. 5,084 ft.
Bishop Corp.'s No. 3 Smith & Ratcliff, R. S. Rhodes Sur., 508 ft. N and S lines ..... Comp. 79 bbls. per hour; ½-in. choke, 5,126 ft.
Feltex Oil Co.'s No. 1 Llewelen, 466 ft. from N line, 3,712 ft. from W line of survey ..... Drlg. sand 4,108 ft.
Gulf Coast Drlg. & Prod. Co.'s No. 2 J. L. Hensley, A. Steele Sur., 466 ft. S line in center E and W of strip ..... Derrick.
Gulf Coast Drlg. & Prod. Co.'s No. 12 Keystone Mills, A. James Sur., 467 ft. W line, 933 ft. S of No. 11 ..... Derrick.
Gulf Coast Drlg. & Prod. Co.'s No. 14-A Keystone Mills, A. James Sur., 840 ft. W of No. 3 ..... Derrick.
Gulf Coast Drlg. & Prod. Co.'s No. 15-A Keystone Mills, A. James Sur., 350 ft. W of No. 14 ..... Derrick.
Gulf Coast Drlg. & Prod. Co.'s No. 17-A Keystone Mills, A. James Sur., 850 ft. W of No. 16 ..... Drlg. shale 1,525 ft.
Gulf Coast Drlg. & Prod. Co.'s No. 18-A Keystone Mills, 933 ft. NE of No. 10 ..... Drlg. shale 1,331 ft.
Gulf Coast Drlg. & Prod. Co.'s No. 14-B Keystone Mills, A. Steele Sur., 2,417 ft. N line, 466 ft. E line, and 975 ft. S of No. 13 ..... Comp. 540 bbls.; 24 hrs.; ¼-in. choke, 5,124 ft.
Gulf Oil & Sulphur Co.'s No. 2 Springfield, J. S. Springfield Sur., 466 ft. from SW line, 100-ac. lease ..... Derrick.
Harrison & Abercrombie's No. 1 McShan, T. M. Wiggins Sur., 466 ft. N line, in center E and W of survey (W.O.) ..... Abd. 5,134 ft.
Humble O. & R. Co.'s No. 1 Alexander ..... Drlg. shale 1,301 ft.
Humble O. & R. Co.'s No. 8 A. Cartright ..... Drlg. shale 986 ft.
Humble O. & R. Co.'s No. 4 Collins, 660 ft. S of No. 1, L. Smith Sur. ..... Comp. 60 bbls. an hr.; ½-in. choke, 5,139 ft.
Humble O. & R. Co.'s No. 9 Emory ..... Shale 5,143 ft.
Humble O. & R. Co.'s No. 20 Madeley ..... Comp. 83 bbls. per hour; ½-in. choke, 5,154 ft.
Humble O. & R. Co.'s No. 21 Madeley ..... Drlg. shale 1,238 ft.
Humble O. & R. Co.'s No. 27 Madeley, Ransom House Sur. ..... Drlg. shale 2,807 ft.
Humble O. & R. Co.'s No. 17 Moore ..... Drlg. shale 703 ft.
Humble O. & R. Co.'s No. 19 Moore ..... Drlg. shale 715 ft.
Humble O. & R. Co.'s No. 21 Moore, 933 ft. SW of No. 9, L. Smith Sur. ..... Comp. 77 bbls. per hour; ½-in. choke, 5,126 ft.
Humble O. & R. Co.'s No. 52 South Tex. Dev. Co., T. Slade Sur. ..... Drlg. shale 5,146 ft.
Humble O. & R. Co.'s No. 54 South Tex. Dev. Co., T. Slade Sur., 933 ft. E of No. 26 ..... Drlg. shale 4,141 ft.
Humble O. & R. Co.'s No. 57 South Tex. Dev. Co., T. Slade Sur., 850 ft. N of No. 34 ..... Drlg. shale 5,050 ft.
Humble O. & R. Co.'s No. 58-A South Tex. Dev. Co., T. Slade Sur., 933 ft. E of No. 57 ..... Comp. 74 bbls. per hour; ⅛-in. choke, 5,148 ft.
Humble O. & R. Co.'s No. 59 South Tex. Dev. Co., T. Slade Sur. ..... Drlg. shale 4,240 ft.
Humble O. & R. Co.'s No. 3-D South Tex. Dev. Co., T.&N.O. Sur., 1,350 ft. S of No. 2-D ..... Comp. 69 bbls. per hour; ½-in. choke, 5,129 ft.
Humble O. & R. Co.'s No. 4-D South Tex. Dev. Co., T.&N.O. Sur. ..... Rigging.
Humble O. & R. Co.'s No. 1-F South Tex. Dev. Co., T.&N.O. Sur. ..... Drlg. shale 2,170 ft.
Strake Pet., Inc.'s No. 2 Hammond ..... Rigging.
Strake Pet., Inc.'s No. 2 Krohn, Stephen Bryan Sur. ..... Shale 5,129 ft.
Sun Oil Co.'s No. 24 Foster, 2,240 ft. SW of NE line, 2,040 ft. SE of NW line, J. Bricker Sur. ..... Drlg. shale 1,300 ft.
Sun Oil Co.'s No. 30 Foster ..... Drlg. shale 4,375 ft.
Sun Oil Co.'s No. 32 Foster ..... Derrick.
Sun Oil Co.'s No. 4 Keystone Mills, A. Steele Sur., 1,068 ft. S of No. 3 ..... Drlg. shale 3,420 ft.
Sun Oil Co.'s No. 10 Keystone Mills, A. Steele Sur. ..... Derrick.
Sun Oil Co.'s No. 2 McDonald, 1,275 ft. S of No. 1, Wilson Strickland Sur. ..... Drlg. shale 4,843 ft.
Texas Unity Oil Co.'s No. 2 Keystone Mills, 223 ft. N line, 466 ft. W line, L. Smith Sur. ..... Comp. 61 bbls. per hour; ½-in. choke, 5,102 ft.
Texas Unity Oil Co.'s No. 1 Stevens, L. Smith Sur., 1,316 ft. E line, 223 ft. N line of lease ..... Derrick.
Tide Water Oil Co.'s No. 1 Amer. Natl. Bank, 390 ft. W line, 400 ft. N line of lease, Wilson Strickland Sur. ..... Comp. 34 bbls. per hour; ¼-in. choke, 5,071 ft.
Tide Water Oil Co.'s No. 29 Lewis, 933 ft. E of No. 1, C. B. Stewart Sur. ..... Drlg. shale 5,050 ft.
West Prod. Co.'s No. 1 Foster Lbr. Co., 467 ft. N line, 650 ft. W line, Sec. 3, T.&N.O. Sur. ..... T.D. 5,200 ft.; rigging up to pump.

ORANGE—ORANGE COUNTY

Gulf Prod. Co.'s No. 12 Hager-Moore (W.O.) ..... Drlg. sand 5,307 ft.

PORT NECHES—ORANGE COUNTY

Texas Co.'s No. 2-B Polk, 695 ft. N, 150 ft. S of NE cor. of N. Jacob Beaumont Sur. ..... Cmtd. hole to straighten 1,696 ft.
Texas Co.'s No. 4 Kuhn, 150 ft. E, 150 ft. N of NW cor. of lease ..... Drlg. sticky shale 3,540 ft.
Texas Co.'s No. 5 Kuhn, 693 ft. from E line, 150 ft. from N line of SE cor. of lease, M. Hall No. 2, T. J. Notgrass Sur. ..... Rigging.

LIVINGSTON—POLK COUNTY

Vick Borsodi et al's No. 1 West, E 2½ acres of 35 acres, Roberts tract, A. Viesca Sur. ..... Wtr. sand; T.D. 4,370 ft.; to P.B. to 4,356 ft.
Gist Oil Co.'s No. 1 Kingsbury County Holding Corp., A. Viesca Sur., 150 ft. N at right angles and 193 ft. E along S line of tract ..... Rigging.
Humble O. & R. Co.'s No. 2 Grandbury, 520 ft. W of E line, 400 ft. N of S line, A. Viesca Sur. ..... Comp. 20 bbls. per hour; ¼-in. choke, 4,370 ft.
Humble O. & R. Co.'s No. 3 Grandbury, 6,000 ft. W of No. 1, A. Viesca Sur. ..... Drlg. sand showing wtr. 4,330 ft.
Humble O. & R. Co.'s No. 4 Grandburg, M. C. Swinney Sur., 550 ft. from NE, 289 ft. from SE R/A out of NW cor. of lease ..... Drlg. shale 470 ft.
Polk County Dev. Co.'s No. 1 W. R. Crockett, 202 ft. N and S lines, 330 ft. W line of Crockett 12-ac. tract ..... Drlg. shale 1,010 ft.
Shell Pet. Corp.'s No. 3 Davis-Holmes, M. C. Swinney Sur., 577 ft. NE of center of SW line ..... T.D. 4,529 ft.; P.B. to 4,398 ft.; abd.
Shell Pet. Corp.'s No. 1 J. Duff, 438 ft. NW, 33 ft. NE lines of lease, A. Viesca Sur. ..... Drlg. shale 3,010 ft.
Shell Pet. Corp.'s No. 1 Jones, 535 ft. from E line, 1,248 ft. from S line of A. Jones lease, A. Viesca Sur. ..... Drlg. shale 508 ft.
Shell Pet. Corp.'s No. 1 Munson, 305 ft. S line, 779 ft. from E and W lines of Munson 50-ac. tract ..... T.D. 3,205 ft.; P.B. to 2,400 ft.
Skelly Oil Co.'s No. 2 Sanders, 300 ft. S line, 755 ft. E line of lease, A. Viesca Sur. ..... Drlg. shale 4,329 ft.; showing oil.

GRETA—REFUGIO COUNTY

Atlantic-Alamo's No. 1-F J. M. O'Brien ..... Drlg. shale 245 ft.
Atlantic-Alamo's No. 2-F J. M. O'Brien, 466 ft. from S and W lines of lease, M. J. Ximines Sur. ..... Drlg. shale 271 ft.
Atlantic Oil Prod. Co.'s No. 5-C O'Brien, 1,193 ft. S of N line, 628 ft. E line ..... Drlg. sand 4,387 ft.
Atlantic Oil Prod. Co.'s No. 1 J. F. E. Heard, 466 ft. E of W line, center N and S lines, 150-ac. tract, J. H. Peoples Sur. ..... Drlg. sand 4,377 ft.
Circle W Oil Co.'s No. 9 O'Brien, 1,007 ft. S of No. 8 ..... Drlg. shale 3,460 ft.
Circle W Oil Co.'s No. 10 O'Brien, 1,007 ft. N of No. 9 ..... Drlg. shale 1,284 ft.
Dash Prod. Co.'s No. 1-C O'Brien, N. S. Crunk Sur., 466 ft. N line, 466 ft. NW line of tract ..... Comp. 300 bbls.; ¼-in. choke, 4,394 ft.
Dash Prod. Co.'s No. 2-E O'Brien, N. S. Crunk Sur., 466 ft. N of SE line, center E and W of tract ..... Derrick.
Floboots Oil Corp.'s No. 1 M. C. Bauer, 330 ft. N line, 1,724 ft. from W line, J. M. Ximines Sur. ..... Derrick.
Floboots Oil Corp.'s No. 1 J. J. O'Brien, 466 ft. S of N line, 466 ft. E line, 50-ac. tract, N. S. Crunk Sur. ..... Drlg. shale 4,377 ft.
Floboots Oil Corp.'s No. 2 J. J. O'Brien, 1,055 ft. W of E line, 291 ft. S of N line, M. J. Ximines Sur. ..... Drlg. sand 4,385 ft.
G. L. Gray Oil Corp.'s No. 1 F. Heard, 466 ft. E of W line, 466 ft. S of N line of NW 40-ac. tract out of Heard's 377-ac. tract ..... Csg. cmtd. 4,373 ft.
Hewitt & Daugherty's No. 2 M. F. Lambert, 2,530 ft. E of NW cor., Harper Sur., 466 ft. S in Hardwick Sur. ..... Drlg. sand 3,725 ft.

Humble O. & R. Co.'s No. 1 F. Heard, 466 ft. out of NW cor. Ximines Sur. .... T.D. 3,030 ft.; blowing wild.
Humble O. & R. Co.'s No. 2 Heard, 466 ft. S of most southerly N line, 302 ft. E of most westerly line, N. S. Crunk Sur. .... Rigging.
Edwin M. Jones' No. 3-A J. M. O'Brien, N. S. Crunk Sur., 950 ft. S and W lines of lease .... Csg. cmtd. 4,371 ft.
Edwin Jones' No. 4-A O'Brien, 466 ft. N of S line, 466 ft. E of W line of 227-ac. tract, N. S. Crunk Sur. .... Spudding.
Edwin M. Jones' No. 8-A O'Brien, N. S. Crunk Sur., 466 ft. W of E line, 1,629 ft. N of S line of lease.... Derrick.
Edwin Jones' No. 9-A O'Brien, 466 ft. out NE cor. of lease, N. S. Crunk Sur. .... Csg. cmtd. 1,119 ft.
Nesral Oil Co.'s No. 1 Ira Heard, M. J. Ximines Sur., 330 ft. out of NW cor. of 25-ac. tract .... T.D. 5,962 ft.; P.B. to 1,700 ft.; drlg. new hole 5,078 ft.
Nesral Oil Co.'s No. 1 V. E. Heard, 466 ft. N line, 266 ft. W line, M. J. Ximines Sur. .... Drlg. shale 5,462 ft.
Nesral Oil Co.'s No. 4 O'Connor .... Drlg. sand 4,396 ft.
Nesral Oil Co.'s No. 3 O'Conner, 466 ft. from E line, 466 ft. from S line, N. S. Crunk Sur. .... Drlg. shale 874 ft.
Southwest Oil Corp.'s No. 4-B O'Brien, N. S. Crunk Sur., 466 ft. N of S, 466 ft. E of W line of lease... Moving in material.
Southwest Oil Corp.'s No. 1 Thos. O'Conner, N. S. Crunk Sur., 466 ft. from N line, 466 ft. from W line of lease .... Drlg. shale 1,303 ft.
Standard of Kansas' No. 1 O'Conner, 466 ft. from N line, center E and W of lease, N. S. Crunk Sur. .. Derrick.
Stanolind-Atkins' No. 1 Welder, 466 ft. S line, 313 ft. W line of 200-ac. tract, J. T. McGrew Sur. .... Drlg. sand and lime 2,310 ft.
Texas Gulf Prod. Co.'s No. 3-A J. M. O'Brien, 1,088 ft. W of E line, 466 ft. S at right angles, J. H. Peoples Sur. .... Derrick.
Texas Gulf Prod. Co.'s No. 1 J. M. O'Brien, J. H. Winfield Sur., 466 ft. NS line, center E and W, Blk. 13 .... Moving in material.
Trinity Drillers' No. 1 Welder, J. T. McGrew Sur., 466 ft. from S and W lines of J. F. Welder 200-ac. tract.. Spudding.
United Prod. Co.'s No. 10 Fox, 834 ft. NE of No. 9, Hews & Brown Sur. .... Drlg. shale 3,475 ft.
United Prod. Co.'s No. 11 Fox, 867 ft. NE of No. 10, Hews & Brown Sur. .... Drlg. shale 3,575 ft.
United Prod. Co.'s No. 5 Lambert, 700 ft. W, 600 ft S from NE cor. of lease, E. W. Harper Sur. .... Drlg. shale 3,066 ft.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 9 Clay, J. F. Perry Sur., 1,126 ft. NE of No. 5 .... Rigging.
Sun Oil Co.'s No. 9 Clay, 600 ft. NE of No. 1 Clay, J. F. Perry Sur., 757-ac. tract .... Abd. 3,055 ft.

SOUTH LOUISIANA FIELDS

ACADIA PARISH

Mills Bennett Prod. Co.'s No. 1 Riverside, 1,400 ft. S, 467 ft. E of NW cor. Sec. 61-9s-2w .... Derrick.
Superior Oil Co.'s No. 1 P. O. Hermandes, 990 ft. W, 990 ft. S of NE cor. SE Sec. 34-8s-3e .... Moving in material.
I. M. Pharris' No. 1 Link Bros., 150 ft. S, 150 ft. E. NW cor. Sec. 36-7s-1e .... Drlg. gumbo 337 ft.

ASSUMPTION PARISH

Barnsdall Oil Co.'s No. 1 Williams, 330 ft. out of NE cor. Sec. 35-14s-14e .... T.D. 8,155 ft.; abd.

DARROW—ASCENSION PARISH

Gulf Ref. Co.'s No. 1 Darrow Community, 600 ft. due N, 100 ft. due W of Rio Bravo's No. 1 Community .... Drlg. shale 4,602 ft.

BLACK BAYOU—CAMERON PARISH

Shell Pet. Corp.'s No. 17 Watkins, 660 ft. E of No. 15, in Sec. 18-12s-12w .... Rigging.

CAMERON MEADOWS—CAMERON PARISH

Humble O. & R. Co.'s No. 4 Cameron Meadows, 360 ft. N, 600 ft. W, SE cor. Sec. 21-14s-13w .... Drlg. shale 4,312 ft.
Humble O. & R. Co.'s No. 5 Cameron Meadows, 2,260 ft. W, 28 ft. S of NE cor. Sec. 21-14s-14w .... Driving piling.
Burton-Sutton Oil Co.'s No. 2 School Land, 1,866 ft. W, 150 ft. N of SE cor. Sec. 16-14s-13w .... Driving piling.

CAMERON PARISH

Southern Sulphur Co.'s No. 1 Gulf of Mexico, 330 ft. S, 338 ft. E of SW cor. Sec. 29-15s-10w .... T.D. 3,275 ft.; standing.
Texas Co.'s No. 9 State, Calcasieu Lake, 16,055 ft. W, 3,270 ft. N, NE cor. Sec. 1-14s-9w .... Drlg. gumbo 50 ft.

CALCASIEU PARISH

Gulf Ref. Co.'s No. 1 Sweet Lake Oil Co., 660 ft. N, 330 ft. E of SW cor. Sec. 29-10s-5w .... Drlg. shale 4,791 ft.
Fred Oil Co.'s No. 1 Farazt, 566 ft. N, 300 ft. W, SE cor. NW SE Sec. 26-8s-10w .... Shale 373 ft.; standing.
Union Sulphur Co.'s No. 1 Barbe, 2,681 ft. W, 2,647 ft. S of NE cor. Sec. 1-9s-8w .... Drlg. gumbo 3,393 ft.

CHOCTAW—IBERVILLE PARISH

Standard Oil Co. of La.'s No. 5 Myrtle Grove, 1,700 ft. N, 200 ft. W, SE SW cor. SW Sec. 52-9s-11e .... Drlg. rock 3,047 ft.

EAST BATON ROUGE PARISH

British-American Oil Co.'s No. 1 Louisiana, 2,750 ft. NE NW cor. Sec. 79, and 1,700 ft. N of NE Sec. 79, in Sec. 6-8s-1e .... Drlg. shale 5,536 ft.

EDGERLY—CALCASIEU PARISH

S. A. Emerson's No. 13 Hunter, 465 ft. N, 90 ft. E, SW cor. Sec. 21-9s-11w (W.O.) .... Standing 4,118 ft.
Union Sulphur Co.'s No. 1 Hunter, 210 ft. E, 1,260 ft. N of SW cor. SE Sec. 21-9s-11w .... Drlg. shale 3,287 ft.
Yount Lee Oil Co.'s No. 1 Sulphur Mining Co., 150 ft. S, 300 ft. W, NE cor. Sec. 23-9s-11w .... Drlg. shale 2,200 ft.

EVANGELINE PARISH

J. E. Ledau's No. 3 Vidrine, 30 ft. S of No. 2, Sec. 47-3s-2e .... Drlg. gravel 243 ft.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 1 Grady Lee-Humble, 2,031 ft. E, 225 ft. N of NW cor. Sec. 34, in Sec. 27-11s-1w.... Abd. in cap rock 4,633 ft.
Pure Oil Co.'s No. 5 Mulvey, 500 ft. from No. 2 Mulvey, in line with Nos. 1 and 2 .... Drlg. sand 3,729 ft.

HACKBERRY—CAMERON PARISH

Wilford Lahay et al's No. 1 Roux (W.O.) .... T.D. 2,652 ft.; drlg. new hole 2,400 ft.
Gulf Ref. Co.'s No. 12 Irwin, 865 ft. N, 518 ft. E of SW cor. Sec. 44-12s-9w .... Comp. 2,640 bbls. a day; ½-in. choke, 7,490 ft.
J. G. Sutton's No. 1 Little, 2,221 ft. W, 1,670 ft. N, SE cor. Sec. 22-12s-10w (W.O.) .... Drlg. sand 2,978 ft.
Texas Co.'s No. 11-B State .... Derrick.
Union Sulphur Co.'s No. 1 Barber est., 1,720 ft. N line, 320 ft. E of SW cor. Sec. 12-12s-10w .... Drlg. shale 6,131 ft.
Union Sulphur Co.'s No. 8 Humble .... Drlg. lime 5,165 ft.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Barnsdall Oil Co.'s No. 3 Fontenat, 1,627 ft. S, 330 ft. W from SW cor. Sec. 7-9s-6w .... Rigging.
Magnolia Pet. Co.'s No. 1 Le Blew, 670 ft. W, 330 ft. S of NE cor. SE Sec. 14-9s-7w .... Drlg. shale 1,212 ft.
Magnolia Pet. Co.'s No. 5 Waite, 660 ft. E, 300 ft. N, SW cor. SE Sec. 12-9s-7w .... Derrick.
Shell Pet. Corp.'s No. 1 Tuten, 265 ft. S, 330 ft. W of NE cor. SW Sec. 13-9s-7w .... Drlg. shale 6,036 ft.
Shell Pet. Corp.'s No. 1 Johnson, 265 ft. S, 330 ft. E of NW cor. SW Sec. 18-9s-6w .... Drlg. gumbo 1,357 ft.
Shell Pet. Corp.'s No. 1 C. Le Blew, 660 ft. W, 330 ft. N of SE cor. of lease .... Drlg. gumbo 1,370 ft.

JEFFERSON DAVIS PARISH

Humble O. & R. Co.'s No. 3 Devilbiss, 1,350 ft. S, 350 ft. W of NE cor. Sec. 14-9s-4w .... Drlg. shale 8,260 ft.
Shell Pet. Corp.'s No. 1 Kratza, 660 ft. S, 330 ft. W of NE cor. NW Sec. 12-9s-4w .... Moving in material.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 13 Houssiere-Latrielle, Sec. 47-9s-3w, 300 ft. E of No. 12 .... Drlg. shale 6,376 ft.

LAFOURCHE PARISH

Barnsdall Oil Co.'s No. 1 Harang, Lot 6, in Twp. 17s-20e .... Drlg. shale 6,630 ft.

LAKE BARRE—TERREBONNE PARISH

Texas Co.'s No. 22 State-Lake Barre, 150 ft. northerly from No. 18 .... T.D. 4,888 ft.; fishing.
Texas Co.'s No. 23 State-Lake Barrie .... Drlg. salt 1,090 ft.
Texas Co.'s No. 25 State-Lake Barre .... Drlg. sand 70 ft.
Texas Co.'s No. 26 State-Lake Barre, 150 ft. northerly from No. 22 .... Derrick.

LAKE WASHINGTON—PLAQUEMINES PARISH

Humble O. & R. Co.'s No. 11 Cockrell & Moran .... Gumbo 400 ft.; standing.
Humble O. & R. Co.'s No. 12 Cockrell & Moran .... Standing 1,169 ft.
Humble O. & R. Co.'s No. 3 La. State, Twp. 20s-26e, 2,920 ft. N, 19 ft. E of station .... Drlg. shale 3,464 ft.

LEESVILLE—LA FOURCHE PARISH

Gulf Ref. Co.'s No. 2 City of New Orleans, 260 ft. E. SE cor. Lot 4, Sec. 26-21s-22e .... Drlg. sand 1,937 ft.
Gulf Ref. Co.'s No. 1 Community, Blk. C, 151 ft. N of S line, 100 ft. E of E bank of Bayou La Fourche, Sec. 23-21s-22e .... Rigging.
Gulf Ref. Co.'s No. 1 Community, Blk. E, 151 ft. N of S line, 150 ft. E of E bank of Bayou La Fourche, Sec. 23-21s-22e .... Derrick.
Gulf Ref. Co.'s No. 1 Le Fort, 100 ft. N of S line, 100 ft. W of N bank of Bayou La Fourche, Sec. 23-21s-22e .... Drlg. shale 1,077 ft.
Hellis et al's No. 1 State-Bayou Lafourche, 315 ft. N along W side of bayou at R/A, 96 ft. E at R/A from SE cor. Lot 3, Sec. 26-21s-22 .... Rigging.
Texas Co.'s No. 9 L.L.&E., 2,921 ft. S, 960 ft. W from NE cor. Sec. 27-21s-22e .... Drlg. sand 3,421 ft.
R. Y. Walker's No. 1 State-Bayou Lafourche, 930 ft. N along W line of Lot 6 from SW cor. Sec., thence 430 ft. at R/A Sec. 26-21s-22 .... Moving in material.

LOCKPORT—CALCASIEU PARISH

Magnolia Pet. Co.'s No. 7 Farquarher, 330 ft. S, 174 ft. W of NE cor. SW NE Sec. 8-10s-9w .... Moving in material.
Magnolia's No. 9 Farquaher, 200 ft. N, 150 ft. E of SW cor. NE SE Sec. 8-10s-9w (O.W.D.D.) .... Drlg. sand 6,677 ft.
Magnolia Pet. Co.'s No. 11 Bordages, 660 ft. N, 490 ft. W of SE cor. NE NE Sec. 8-10s-9w .... Derrick.
Magnolia Pet. Co.'s No. 4-A Watkins fee, 655 ft. E, 200 ft. N of SW cor. NW NE Sec. 9-10s-9w .... Drlg. sand 4,869 ft.
Union Sulphur Co.'s No. 1 Farquaher, 200 ft. S and W lines, in the NE cor. SW SE Sec. 36-12s-10w, in 2-ac. tract .... Drlg. gumbo 2,802 ft.
Union Sulphur Co.'s No. 1 Moss (W.O.) .... T.D. 6,244 ft.; reaming.

NEW IBERIA—IBERIA PARISH

G. D. Spell, 3,138 ft. SW cor. along W boundary line, then in a NE direction 1,140 ft. along N line of Bernard property in Sec. 54-12s-7e .... Sand 2,460 ft.; to test.

IBERIA PARISH

Gross Tete Dev. Co.'s No. 1 Angelios .... Drlg. gumbo 1,340 ft.

PLAQUEMINES PARISH

Southern Sulphur Co.'s No. 1 Bay Adams .... Rig.

PORT BARRE—ST. LANDRY PARISH

Cale O. & G. Co.'s No. 1 Thompson .... T.D. 3,412 ft.; fishing.
Campbell et al's No. 1 J. E. Jeonsonne, Sec. 7-6s-5e, 30 ft. N of S line in center E and W of 30-ac. tract.. Sand 3,890 ft.; tested S.W.: standing.
Gulf Ref. Co.'s No. 5 Wilson-Cockran, 600 ft. N, 910 ft. E of No. 2, Sec. 4-6s-5e .... Derrick.
Texas Co.'s No. 17 Botney Bay, 1,800 ft. S 8 deg. W, 600 ft. N 82 deg. most southern NE 560 deg. tract, Sec. 4-6s-5e .... Derrick.
Texas Co.'s No. 18 Botney Bay .... Sand 3,419 ft.; cutting and pulling screen.
Texas Co.'s No. 19 Botney Bay .... Derrick.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 2 Lacy White Frank, 1,175 ft. N, 1,615 ft. W of SE cor. Sec. 16-10s-4e .... Drlg. sand 3,657 ft.
Union Sulphur Co.'s No. 25 United Land .... Drlg. rock 1,810 ft.

STARKS—CALCASIEU PARISH

Gulf Ref. Co.'s No. 33 Lutcher-Moore .... Comp. 426 bbls.; ½-in. choke, 3,020 ft.
Union Sulphur Co.'s No. 3 Industrial Lbr. Co., 2,400 ft. N, 412 ft. W, SE cor. Sec. 19-9s-12w .... Salt 4,426 ft.; P.B. to 2,400 ft.; drlg. new hole 2,910 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 779 fee, 1,153 ft. N, 795 ft. E of center of Sec. 29-9s-10 .... Sand 3,605 ft.; showing oil; to pump.
Union Sulphur Co.'s No. 786 fee .... Drlg. shale 4,694 ft.
Union Sulphur Co.'s No. 787 fee, 119 ft. from N line, 1,632 ft. from W line of C Sec. 29-9s-10w .... Drlg. gumbo 1,357 ft.
Union Sulphur Co.'s No. 788 fee, 602 ft. S, 1,209 ft. W, of C Sec. 29-9s-10w .... Derrick.

ST. BERNARD PARISH

Southern Sulphur Co.'s No. 1 Lake Lery, 400 ft. W, 500 ft. N, SW cor. Sec. 28-13s-15e .... Cmtd. csg. 212 ft.
Southern Sulphur Co.'s No. 1 State Lake Bargne, 850 ft. N, 230 ft. E, SE cor. Sec. 33-13s-15e .... Cmtd. csg. 650 ft.

ST. LANDRY PARISH

Gaunch Synd.'s No. 1 Lewis, 300 ft. N and E of SW cor. NW NE Sec. 29-5s-6e .... Shale 3,285 ft.; standing.
H. H. Hotchins Lbr. Co.'s No. 1 Whiteman Lbr. Co., 250 ft. out of SW cor. NE Sec. 15-5s-6e .... Cmtd. csg. 710 ft.

ST. MARTIN PARISH

Standard Oil Co. of Kansas' No. 1 E. B. Hopkins, Sec. 33-10s-6e .... T.D. 6,010 ft.; reaming to set 7-in. csg.

TERREBONNE PARISH

Texas Co.'s No. 9 State-Dog Lake .... Drlg. shale 4,125 ft.
Texas Co.'s No. 9 State-Caillou Island .... Drlg. sand 4,070 ft.
Texas Co.'s No. 2 School Board-Bay St. Elaine .... Drlg. shale 2,942 ft.
Texas Co.'s No. 2 State-Four Isle .... Rigging.
Texas Co.'s No. 1 State Bay-St. Elaine, 3,900 ft. N, 2,300 ft. E of SW cor. Sec. 8-22s-18e .... Moving in.
Texas Co.'s No. 10 State-Lake Pelto, 420 ft. N, 1,246 ft. E, SW cor. Sec. 4-23s-18e .... Rigging.

VERNON PARISH

Glen J. Smith's No. 1 Fullerton Mineral Co., 330 ft. N and E, SW cor. Sec. 32-1n-5w .... Drlg. shale 3,840 ft.

VINTON—CALCASIEU PARISH

Marrs McLean's No. 16 Gray, 426 ft. N, 658 ft. E of SW cor. Sec. 33-10s-12w .... Rigging.
Starks & Broker's No. 11 A. J. Vincent, NW cor. SE Sec. 33-10s-12w .... Moving in material.
Wilson Broach's No. 4 Wilson .... Standing 3,806 ft.
Wilson Broach's No. 10 Wilson Strip, 660 ft. N, 379 ft. E, SW cor. SE NE Sec. 33-10s-12w .... Derrick.
Wilson-Broach Co.'s No. 11 Wilson Strip, 450 ft. N, 643 ft. E of SW cor. SE NE Sec. 33-10s-12w .... Comp. 1,440 bbls. a day; ⅝-in. choke, 3,809 ft.
Gulf Ref. Co.'s No. 7 J. W. Gardner, 308 ft. E, 550 ft. N, SW cor. SE NE Sec. 33-10s-12w .... T.D. 4,370 ft.; P.B. to 3,560 ft.; drlg. new hole 3,791 ft.; sand.
Vinton Pet. Co.'s No. 7 Rescue (W.O.), 400 ft. W, 600 ft. S of NE cor. Sec. 4-11s-12w .... Pulling screen to deepen 2,970 ft.
Vinton Pet. Co.'s No. 1 Vincent .... Drlg. sand 3,513 ft.
Vinton Pet. Co.'s No. 22 Vincent, 685 ft. N, 620 ft. E of SW cor. Sec. 34-10s-12w .... Standing 2,774 ft.

TEXAS

MISCELLANEOUS WILDCATS

AUSTIN COUNTY

Tibbetts et al's No. 1 Heiceman, 4,320 ft. W along N line from NE cor. of A. Larson Sur. in J. Cooper Sur., thence 416 ft. N at R/A .... Shale 235 ft.; standing.
R. R. Mitchell's No. 1 H. Schlerda, J. F. Fitzgibbons Sur., 300 ft. out NE cor. 96-ac. tract .... Moving in material.

XUM

BRAZORIA COUNTY

Barnsdall Oil Co. and Superior Oil Co. of Calif.'s No. 1 McCain, W. C. D. Hall Sur., 1,116 ft. N, 330 ft. E of SW cor. of Lot 65 ..... Drlg. shale 4,020 ft.

Danciger O. & R. Co.'s No. 1 L. Williams, 700 ft. NE line, 726 ft. SE line of 180-ac. tract, W. C. Carson Sur. ..... Drlg. shale 4,040 ft.

BRAZOS COUNTY

H. Elliott et al's No. 1 W. F. Odom, near center of 379-ac. tract in SW cor. of Isaac Curll Sur. ..... Cmtd. surface csg.

Liner et al's No. 1 Peters, 300 ft. SE line, 300 ft. SW line of E. V. Peter fee, G. Powell Sur. ..... Rig.

F. H. Scott's No. 1 Klintworth, I. Curd Sur., 300 ft. from N line, 400 ft. from E line ..... T.D. 1,487 ft.; gas sand 1,393-1,420 ft.; cmtd. 8¼-in. csg. 1,-385 ft.; standing.

BURLESON COUNTY

Berry & Hays' No. 1 Young, 250 ft. from SW, 1,089 ft. from SE of 147-ac. tract, John Bird Sur. ..... Rigging.

Poor Boy Oil Co.'s No. 2 Palinsky, A. G. Lawrence Sur., 300 ft. due S of No. 1 ..... Drlg. shale 950 ft.

CHAMBERS COUNTY

Smith & Lavender's No. 1 McCormick, F. Ludlow Sur., 150 ft. NE cor. ..... Derrick.

COLORADO COUNTY

Columbus Dev. Co.'s No. 1 Miller, H.T.&B. No. 4, 2,268 ft. E of W line, 1,345 ft. S of N line of survey.. Abd. 5,216 ft.

Hughes-Patrick Oil Co.'s No. 1 Lake Side Irrigation, 1,500 ft. SE, 500 ft. NE NW cor. of Patrick Reel Sur.. Sand showing oil 3,680 ft.; to make D.S. test.

Plymouth Oil Co.'s No. 2 Ream, 1,000 ft. SW of No. 1. I.&G.N. Sur. ..... Drlg. shale 1,200 ft.

Weimar Dev. Co.'s No. 1 Janecka, H. Austin Sur. ..... Drlg. shale 1,160 ft.

FAYETTE COUNTY

Colorado Oil Corp., J. Winn Sur., 650 ft. NE of center of SW line of 62.8-ac. tract ..... T.D. 2,139 ft.; standing.

Columbus Drlg. Co. and Gulf Prod. Co.'s No. 1 Turner, 400 ft. E of river, 300 ft. N of S line, J. Petty Sur... Abd. 4,517 ft.

FORT BEND COUNTY

A. N. Phillips et al's No. 1 Grigar, 2,150 varas E line, 1,550 varas N line, J. S. O'Connor Sur. ..... T.D. 700 ft.; standing.

Quintana Oil Co. and Great So. Life's No. 1 Great So. Life, Ec. Robertson Sur., 500 ft. S of N line, 500 ft. W of Brazos River ..... Drlg. sand 7,040 ft.

GRIMES COUNTY

Clark & Dodd's No. 1 Murry, 150 ft. W line, 300 ft. S line, Anderson Sur. ..... Spudded; standing.

Cambrian Oil Co.'s No. 1 W. V. Sangster, John Moore Sur., 300 ft. out of most westerly NW cor. of 218-ac. tract ..... Derrick.

Foster et al's No. 1 Quinn, 7,100 ft. from W line, 3,900 ft. from N line of S. F. Austin Sur. ..... Standing 65 ft.

Humble O. & R. Co.'s No. 1 Henderson, 750 ft. S, 700 ft. W at R/A of NE cor. of lease, G. W. Seaton Sur. ..... Drlg. shale 927 ft.

H. C. Ratcliff's No. 1 Fulgham, A. Tuttle Sur., 600 ft. N line, 540 ft. W line of lease ..... Derrick.

HARRIS COUNTY

J. A. Hodges' No. 1 Scott, 200 ft. S, 900 ft. W of intersection of Crosby Huffman, F. Rankin Sur. .... Drlg. shale 2,067 ft.

G. T. Lewis, tr.'s No. 1 Gore, S. McKissick Sur., 518 ft. SW along SE line of 100-ac. tract from W cor. of S. V. Allen's 105-ac. tract and 500 ft. NW at right angles in 100-ac. tract (W.O.) ..... Drlg. gumbo 5,706 ft.

Russell et al's No. 1 Burt & Griffith, S. Keely Sur., 200 ft. N line, 200 ft. E of highway ..... T.D. 2,156 ft.; standing.

Jack Schultz et al's No. 1 Synd. Land Co., 2,200 ft. N of S line, 200 ft. W from SE cor. Pruitt Sur. ... Drlg. shale 4,762 ft.

E. E. Young et al's No. 1 Paddock, J. Cunningham Sur., 300 ft. W of E line of Blk. 41 on line dividing Blks. 46 and 47 ..... Standing 1,800 ft.

HOUSTON COUNTY

Thompson et al's No. 1 E. W. Harrison, 330 ft. out E cor. 130-ac. tract, J. Masters, Sr., Sur. ..... Drlg. shale 4,379 ft.

JACKSON COUNTY

Ed Parsons et al's No. 1 Clark, 300 ft. out SW cor. of R. J. and M. Clark lease, A. S. White Sur. ..... Drlg. sand 2,925 ft.

JEFFERSON COUNTY

Lucky Strike Oil Co.'s No. 1 Walker, D. Easley Sur., 2,180 ft. N, 1,400 ft. E of NW cor. of Lot No. 13 .. Spudding.

Sun Oil Co.'s No. 1 Paggi, 990 ft. W, 1,610 ft. N of SE cor. of T.&N.O. Sur. No. 32 ..... Drlg. sand 7,367 ft.

Texas Co.'s No. 1 J. R. Bevil, 150 ft. each way out of NE cor. of lease, Brown & Caswell Sur. ..... Drlg. shale 5,599 ft.

LEON COUNTY

Shell Pet. Corp.'s No. 1 A. Beggs, 406 ft. N, 1,128 ft. E of inside line of lease, John Carter Sur. ..... Drlg. shale 5,976 ft.

LIBERTY COUNTY

W. W. Algren, tr.'s No. 1 Nona Mills Lbr. Co., J. E. Mayfield Sur., 400 ft. from W and 200 ft. from N line of lease ..... Shale 5,840 ft.; standing.

Gulf Prod. Co.'s No. 1 Kirby Lbr. Co., 900 varas S of N line, 1,400 varas E of W line, J. Pleasant Sur. .. Drlg. gumbo 1,370 ft.

Layton et al's No. 1 J. A. Lovett, 200 ft. W of E line, 600 ft. N of S line of lease, P. P. Devers Sur. ..... Cmtd. csg. 785 ft.

E. V. Parsons et al's No. 1 Foster Lbr. Co., Ann Holhausen Sur., 750 varas S line, 3,700 varas W of E line ..... Derrick.

Thomas et al's No. 1 A. Ercke, 600 ft. E of W line, 3,350 ft. N of S line, A. H. Ercke Sur. in Reason & Green Sur. ..... Drlg. shale 4,565 ft.

MATAGORDA COUNTY

Continental Oil Co.'s No. 1 Boker, 400 ft. out of SW cor. Lot 17, Robbins & Middle Subd., J. W. Criswell Sur. ..... T.D. 6,504 ft.; drlg. sidetracked hole in shale 6,567 ft.

Olis Consolidated, Inc.'s No. 1 Hawkins, Daniel McCarthy Sur., 1,340 ft. NE, 350 ft. NW of S cor. ... Drlg. shale 4,459 ft.

United North & South Dev. Co.'s No. 1 Unit 6 (No. 2 Stoddard), 25 ft. each way out of NW cor. of Lot 19, Buckeye Townsite ..... T.D. 7,872 ft.; set whipstock 7,-512 ft.

United North & South Dev. Co.'s No. 1 Unit 25, 1,325 ft. S, 1,000 ft. E of No. 1 Unit 6 ..... O.S. 8,169-79 ft.; csg. cmtd. 8,-165 ft.

MONTGOMERY COUNTY

Baker et al's No. 1 Benker, D. James Sur. ..... Drlg. shale 4,125 ft.

Derring & Frazier's No. 1 Rolph, H. Blood Sur., 660 ft. S from center of survey ..... Derrick.

Sutton & Hawkins' No. 2 Foster Est., 90 ft. E of No. 1, A. M. Del Garza Sur. ..... T.D. 300 ft.; standing.

Turnbull & Erwin's No. 1 B. C. Ayler, E. Votaw Sur., 600 ft. out of N cor. of B. C. Ayler 1,938-ac. tract... Drlg. lime 2,381 ft.

ORANGE COUNTY

Blue Line Oil Co.'s No. 1 Godwin, Richard Ballew Sur., 300 ft. from E line, 150 ft. from NE cor. of Godwin 20-ac. tract ..... Rigging.

Texas Louisiana Oil Co.'s No. 1 Starks, 2,450 ft. N of NW cor. M. Delano Sur. 68, 10,500 ft. E at right angles ..... T.D. 1,197 ft.; standing.

POLK COUNTY

D. B. McCall's No. 1 Faulkner, 350 ft. W of center of E line of 200-ac. tract, G. B. Dikes Sur. ..... Drlg. shale 935 ft.

Dick Schwab's No. 2 Kirby, G. S. Thomas Sur., 330 ft. out of SW cor. of 250-ac. tract, of 500-ac. tract.... Rigging.

REFUGIO COUNTY

C. B. Bunte et al's No. 1 F. B. Rooke, J. M. Aldritte Sur., CWL of Sec. 4 ..... Drlg. shale 2,786 ft.

Humble O. & R. Co.'s No. 10 O'Connor, Powers & Hewitson Sur., 15,133 ft. N of S line, 7,302 ft. W of E line, of J. Keating Sur. ..... Drlg. sand 2,941 ft.

Texas Co.'s No. 1 Rooke, J. M. Aldritte Sur., 7,500 ft. S 53 deg. W, 850 ft. 37 deg. W of N cor. Sur. .... Drlg. sandy shale 5,993 ft.

Wellington Oil Co.'s No. 1 Roach, R. J. Downey Sur., 1,250 ft. NW line, 515 ft. NE line of Tract No. 1.... Drlg. shale, 5,955 ft.

SAN JACINTO COUNTY

Piedmont Oil Co.'s No. 2 Foster Lbr. Co., 330 ft. each way out of NE cor., Geo. Taylor Sur. ..... Moving in material.

Turnbull & Irwin's No. 1 J. J. West, J. Rankin Sur., center 25-ac. tract ..... Drlg. shale 1,950 ft.

TRINITY COUNTY

T. M. Smith et al's No. 1 C. Moody, E. Roberts Sur., 552 ft. W of E line, 1,202 ft. N of S line, of 40-ac. tract ..... Drlg. shale 1,330 ft.

TYLER COUNTY

Marshall & Denton's No. 1 Seman, G. W. Banlick Sur., Abstract No. 654, SW cor. of 320-ac. tract ..... Drlg. shale 1,490 ft.

VICTORIA COUNTY

J. F. Camp's No. 1 Maurer, 330 ft. NE cor. Maurer's 178 acres, R. Manchola Sur. ..... D.S. test at 4,441-47 ft.; trace oil; drlg. shale 4,512 ft.

Stoneleigh O. & G. Co.'s No. 1 Dietzel, 330 ft. out of NW cor. of Dietzel's 95-ac. tract, R. Manchola Sur.. Drlg. shale 3,800 ft.

Stoneleigh O. & G. Co.'s No. 2 E. B. Terrell, 330 ft. out of SE cor. of Terrell's 215-ac. tract, R. Manchola Sur. ..... Moving in derrick.

Stoneleigh O. & G. Co.'s No. 1 Trybble, 330 ft. out of SE cor. Trybble's 122-ac. tract, R. Manchola Sur. .. Moving in derrick.

Stoneleigh O. & G. Co.'s No. 1 Zimmer, R. Manchola Sur., 1,007 ft. SW line, 645 ft. SE line ..... T.D. 4,486 ft.; bridged and abd.

The Texas Co.'s No. 6-A McFaddin, 5,600 ft. from NE line, 250 ft. from SE line of A. J. Gray ..... Gas sand 3,039-49 ft.; pumping wtr. and mud into sand to kill pressure.

The Texas Co.'s No. 7 McFaddin, 6,600 ft. S 15 deg. W, 450 ft. N 75 deg. W at right angles from the NE cor. of the A. J. Gray Sur. ..... T.D. 1,176 ft; blowing gas and mud.

Texas Co.'s No. 7-A McFaddin, 250 ft. due N of No. 7, A. J. Gray Sur. ..... Drlg. shale 1,597 ft.

Texas Co.'s No. 8 McFaddin, A. J. Gray Sur., 6,600 ft. N of S line, 1,383 ft. from E line of NE cor. ..... Drlg. rock 232 ft.

WALKER COUNTY

McDowell et al's No. 1 Thompson, Jackson Crouch Sur., 330 ft. E of W line, 1,200 ft. S of N line .... Rigging.

WALLER COUNTY

Hobson & Moore's No. 1 Peters, Justo Llendo Sur., 590 ft. W of creek and 1,144 ft. N of S cor. ..... Standing 5,265 ft.

WHARTON COUNTY

Harvey & Rusk's No. 1 Reid, 1,000 ft. SW, 500 ft. SE from N cor. of lease, Francis Biggam Sur. ..... Derrick.

Monarch Oil Co.'s No. 1 Schateck, 150 ft. each way out of SW cor. G. W. Reynolds Sur. ..... Drlg. gumbo 1,705 ft.

Nabers et al's No. 1 Lurker, 210 ft. out of SE cor. of N½ SW Sec. 53, E.T.R.R. Sur. ..... Standing 5,026 ft.

Pure Oil Co.'s No. 1 W. Garrett, Sec. 28, 4,456 ft. SE, 1,690 ft. NE of W cor. ..... T.D. 6,343 ft.; standing.

Pure Oil Co.'s No. 1 A. J. Wilder, T. W. Hurd Sur., 509, 2,575 ft. SE, 1,690 ft. NE from W cor. of Sec. 28. Drlg. shale 7,378 ft.

Pure Oil Co.'s No. 1 Stewart, 1,419 ft. NW, 1,650 ft. NE of S cor. of Sec. 35, Morris & Cummings Sur .... Cmtd. csg. 5,954 ft.

Pure Oil Co.'s No. 1 Chas. T. Kuntze, 2,183 ft. from NW line, 467 ft. from SW line, Sec. 27, Morris & Cummings Sur. ..... Cmtd. csg. 7,118 ft.

Pure Oil Co.'s No. 1 W. H. Lancaster, Morris & Cummings Sur., Sec. 23, 1,650 ft. NW, 1,600 ft. SW of E cor. of section ..... Drlg. shale 6,815 ft.

Pure Oil Co.'s No. 1 Willis McIntyre, 1,650 ft. S of N line, 1,759 ft. S of E line of section ..... Cmtd. csg. 6,180 ft.

Pure Oil Co.'s No. 1 Wallace Houston, 358 ft. SE of NW line and 1,690 ft. NE of SW line, Sec. 28, (T. W. Heard Sur.) ..... Blowing wild 6,451 ft.; fire out.

Pure Oil Co.'s No. 1 Isaac Weaver, J. M. Brownson Sur., Sec. 22, 1,650 ft. out of N cor. of section .... T.D. 6,181 ft.; standing.

Smith, McDannald and Pure Oil Co.'s No. 1 B. M. Yeamans, 330 ft. out of N cor. of B. M. Yeamans Sur., Abst. 913 ..... Tested S.W. at 6,196 ft; standing.

Wildcat Operations in Southwest Texas

(Continued from Page 54)

Motes-Campbell's No. 2 Stumberg, 450 ft. from N line, 450 ft. from W line of S. Stumberg 140-ac. tract in F. Rolen Sur. No. 48 ..... T.D. 597 ft.; no report.

George L. O'Neill's No. 1 Neimann in Juan Montez Sur. No. 6 ..... T.D. 920 ft.; drlg.

J. W. Johnson's No. 1 Willow Springs, 150 ft. from N and W lines of lease in B. Munoz Sur. No. 151..... T.D. 1,000 ft.; drlg.

Montgomery & Ririe's No. 1 Wm. Russell, 1,200 ft. from SE line, 600 ft. from SW line of tract in Fernando Rodriquez Sur. ..... T.D. 1,300 ft.; bailing a little oil at 1,050-1,100 ft.; 4-in. set at 1,100 ft. with bottom joint perforated.

Howard Nessly's No. 1 Coffey, 330 ft. S of center of S line of Samuel Wilson Sur. No. 51, in Fernando Rodriquez Sur. ..... T.D. 200 ft.; S.D.

Fred Perrenot's No. 1 Ruiz, SE cor. of 82-ac. tract in F. Rowland (Rolen) Sur. No. 48 ..... T.D. 819 ft.; abd.; dry.

Fred A. Perrenot's No. 1 Russell, 750 varas from NE line, 54 varas from NW line of 500-ac. tract in Rodriquez Sur. ..... T.D. 1,315 ft.; standing.

H. A. Pagenkopf's No. 1 G. A. Goeth, 500 ft. from SE line, 600 ft. from SW line which is San Antonio River, Juan Montez Sur. ..... T.D. 2,010 ft.; sidetracking; will go to Edwards.

C. A. Smith's No. 1 Henry Lamb, 750 ft. from N and E lines of Lamb farm, in de la Garza grant ..... T.D. 671 ft.; drlg. shale.

F. E. Tegler's No. 1 Brackenridge, 578 ft. from S line, 2,284 ft. from W line of tract in Maria Gertrudis de Alanis Sur. .. .. T.D. 1,331 ft.; standing.

W. L. Umburn's No. 1 E. L. Kampf, 150 ft. from N line, 450 ft. from W line of lease in S. McCulloch Sur. ..... T.D. 1,000 ft.; abd.; dry.

BLANCO COUNTY

Blanco Development Co.'s (McGee) No. 1 A. J. Dittmar, 1,320 ft. from S line, 150 ft. from W line of George Evans Sur. No. 58, 4 miles NW of Johnson City ..... T.D. 860 ft.; drlg.

Isham et al's No. 1 Lester ranch, 200 varas from N and E lines of Antonio Bandrand Sur., 8 miles NE from Johnson City ..... T.D. 405 ft.; S.D.

CALDWELL COUNTY

Hinton & Dodson's No. 1 Walker, 600 ft. from N line, 300 ft. from W line of Spencer Morris Sur. ..... T.D. 3,061 ft.; abd.; dry.

E. L. Hope and Joe Cole's No. 1 Mike August, 150 ft. from NE line, 165 ft. from NW line of tract ..... T.D. 1,961 ft.; S.D.

F. L. Thomson's No. 2 Lawler, 150 ft. from NW line, 450 ft. from SW line and road in J. H. Lawler's 134-ac. tract in James Berry Sur. ..... Rigging up.

DUVAL COUNTY

Eaton et al's No. 1 Herbst, 1,650 ft. from E line, 330 ft. from S line in S.A.&M.G. Sur. No 71 ..... Standing.

Gilbert & Clayes' No. 1 Hagist, 330 ft. from N and E lines of Blk. 9, B.S.&F. Sur. No. 265 ..... T.D. 2,307 ft.; abd.

O. W. Killam's No. 3 Wood-Welder, 6,123 ft. from S line, 200 ft. from W line in Sur. No. 102..... T.D. 1,454 ft.; tested mud, a little gas and rainbow of oil; standing.

O. W. Killam's No. 4 Wood-Welder, 500 ft. from N line, 200 ft. from W line in Sur. No. 102 ..... T.D. 300 ft.; drlg.
G. G. Mortimer's No. 2 Peal, 330 ft. from S and E lines of W½ of Sur. No. 796 ..... T.D. 1,820 ft.; drlg.
W. A. Smith's No. 1 Holzapfel, west central part of lease in 900 ft. W of NE cor. of Sur. 344 and 150 ft. from N line of Sur. No. 42 ..... T.D. 1,500 ft.; drlg.
Trinity Drillers' No. 1 Hagist, 1,650 ft. from S line, 2,310 ft. from E line of B.B.B.&C. Sur. No. 1 ..... T.D. 2,244 ft.; coring for Miranda sand.
Plymouth Oil Co.'s No. 3 Hoffman, 1,650 ft. from NW line, 330 ft. from NE line of Sur. No. 114 ..... T.D. 2,830 ft.; abd.
Whitting's No. 1 Duval County Ranch Co., 1,511 ft. from S line, 2,143 ft. from W line of Blk. 21, of Sur. No. 196 ..... T.D. 1,502 ft.; standing.

EDWARDS COUNTY

Love and Evans' No. 1 Steve Brown, 660 ft. from N and E lines of Sec. 66, G.W.T.&P.R.R. Sur., 15 miles W of Rock Springs ..... T.D. 2,900 ft.; drlg.

FRIO COUNTY

Amerada Pet. Corp.'s No. 1 Frank Doering, 34 ft. from W line, 1,700 ft. from S line of Tract No. 7 in Maria Louisa Carranza Sur. No. 302 ..... T.D. 5,960 ft.; core 5,935-45 ft.; recovered 9½ ft. chalky shale; cored 5,945-53 ft. recovered 5 ft. of shale and little chalk.

GILLESPIE COUNTY

Powers et al's (Nixon-Dore) No. 1 Andrew Lindig, 18 mi. E of Fredericksburg ..... T.D. 1,194 ft.; fishing

GONZALES COUNTY

Volz & Shelling's No. 1 Bennett Botts et al, 150 ft. from W line, 800 ft. from N line of 420-ac. tract, lease in Gonzales Sur. ..... T.D. 500 ft.; drlg.

GUADALUPE COUNTY

A. F. Barnhill's No. 3 F. A. Phullman, 1,300 ft. from N line, 152 ft. from E line of lease in L. Bollinger Sur. ..... Rigging up.
Potter et al's No. 1 Greenwood est., 470 varas from W line, 940 varas from NW line of Archibold Gibson Sur. ..... Rigging up.
L. E. Trout's No. 1 Mrs. M. McKee, 650 ft. from W and 150 ft. from N line of 239-ac. tract in Green Dewitt Sur., 4 miles SW from Darst Creek ..... Delayed finding a contractor.

JIM WELLS COUNTY

Plymouth Oil Co.'s No. 1 Cuero Cattle Co., 330 ft. from S and W lines of H.T.&B. Sur. No. 7, 2½ miles W from Alfred ..... Rigging up.
Trinity Drillers' No. 1 Seeligson, 330 ft. from N and E lines of Sec. 71, of R. P. Haldeman Subd., and in S.K.&K. Sur. No. 215 ..... T.D. 2,600 ft.; testing sand 2,574-2,600 ft.; showed a little oil; no pressure; D.D.

KARNES COUNTY

Arrowhead Drlg. Co.'s No. 1 Rudd, 1,320 ft. from S and E lines of 524-ac. tract in Adriance Sur. ..... T.D. 1,982 ft.; standing in shale
C. J. Webster's No. 1 J. B. Cannon, 1,140 ft. from N line, 250 ft. from E line of 80-ac. tract in Lambrano Sur. ..... T.D. 1,645 ft.; drlg.

KENDALL COUNTY

W. E. Waldrip's No. 1 Charles Meckel, 300 ft. from E line, 3,300 ft. from S line of Thos. J. Sweeney Sur. No. 10 ..... T.D. 415 ft.; drlg.

KERR COUNTY

J. E. Anderson's No. 1 J. D. Witt, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 1,923, in Hamilton Sur., 4 miles S of Center Point ..... T.D. 1,885 ft.; standing in shale and sand.
Van Duyn & Moore's No. 1 Nowlin, 2,000 ft. from E line, 2,200 ft. from N line of Jas. R. Bettner Sur. No. 99 ..... T.D. 1,040 ft.; standing.

LA SALLE COUNTY

Equity Oil Co.'s No. 1 Rogers, 202 ft. from E line, 455 ft. from S line of lease in Atascosa County School Land Sur. No. 300 ..... T.D. 310 ft.; moving in heavier rig.
W. H. Wallace's No. 1 H. C. Yeager, 150 ft. from S and E lines of Sur. No. 95 ..... T.D. 2,205 ft.; standing.

LIVE OAK COUNTY

M. P. Howard's No. 1 Alexander, 2,700 ft. from N line, 150 ft. from E line of 500-ac. tract, 3 miles NE of Calliham ..... T.D. 1,223 ft.; abd.; hole jumped
S. B. Hood's No. 1 Byler, 150 ft. from NW and NE lines of Sur. No. 91 ..... Derrick up and slush pits dug.

McMULLEN COUNTY

Armoil Prod. Co.'s No. 1 Kate Martin, 1,470 ft. from SE line, 1,470 ft. from SW line of H.T.&B. Sur. No. 9 ..... T.D. 900 ft.; S.D. over week-end for fuel; showed oil, gas and S.W. at 700 ft.
Paul C. Teas' No. 3 Hagist, 330 ft. from N and W lines of Sec. 19 ..... T.D. 1,875 ft.; drlg.
Pitkin-Goldston Oil Co.'s No. 1 Hagist, 330 ft. from N line, 900 ft. from E line of G. B. McKinney Sur. No. 467 ..... T.D. 1,300 ft.; drlg.

MEDINA COUNTY

O. R. Framme's No. 1 E. Boelke, 987 ft. from N line, 600 ft. from E line of 102-ac. tract in S. Huth Sur. No. 10 ..... T.D. 400 ft.; S.D.

MILAM COUNTY

B. F. Robinson's No. 1 W. M. Caffey, 150 ft. N and E, of SE cor. of B. P. Duncan Sur. in SW cor. of 50-ac. Caffey tract in J. Bright Sur. ..... Rigging up.

NUECES COUNTY

Banquette Oil Co.'s No. 1 T. C. Ingram, 330 ft. from N and W lines of 80-ac. tract, Blk. 6, Sec. 7, of S. R. Peters Sur. ..... T.D. 4,879 ft.; erecting tank and separator.
Benecum & Trees' No. 1 J. O. Pickham, 1,812 ft. to S line, 400 ft. E of 204-ac. tract in G. Faris Sur. ..... T.D. 3,675 ft.; drlg.
A. C. Erwin's No. 1 Sagarin, 520 ft. from N, 160 ft. from E line of 35-ac. tract in Sec. 4, H. L. Kenney Sur. ..... T.D. 4,408 ft.; drlg.
S. F. Hurlbut and Southwest Oil Co.'s No. 1 Poenisbch, center Blk. 2, Sec. 32, Flowerbluff & Encinal farm, 8 miles S from Corpus Christi ..... T.D. 5,242 ft.; rock.

STARR COUNTY

Accumulative Royalty Co.'s No. 1 Martinez, 800 ft. from S line, 500 ft. from W line of C.C.S.D.&R. G.N.G. Sur. No. 217 ..... T.D. 2,200 ft.; drlg.
Goodwin & Yantis' No. 3 Kelsey Bass, 150 ft. from S and E lines of Blk. 8, Coast O. & G. Subd. of Secs. 2 and 3, Porcions 86-87 ..... T.D. 1,040 ft.; standing.
Goodwin and Yantis' No. 2 Walker, 3,000 ft. from S line, 2,000 ft. from W line of Sur. No. 767 ..... T.D. 2,400 ft.; no report.
Myers, Sullivan & Jenkins' No. 1 Starr County Cattle Co., 330 ft. from N line, 330 ft. from W line, Blk. 62, Porcion 89, Share 60 ..... T.D. 2,300 ft.; drlg.
R. D. Perkins & Hoffman's No. 1 E. A. Peffler, 3,090 ft. from W line, 2,480 ft. from S line of Sur. 933. T.D. 80 ft.; standing.

TRAVIS COUNTY

Franklin et al's No. 1-A Reimers, 1,200 ft. from SE line, 1,600 ft. from most southerly SW line of Sur. No. 35 ..... T.D. 910 ft.; drlg.
Fritz Fuch's No. 2-B Smith est., 900 ft. from NW line, 300 ft. from W line of Blk. 16, L. Kimbro Sur. .... Rigged up and standing.
Marts & Beavens' No. 1 Sandahl, 150 ft. from N and E lines of 106-ac. tract in Thos. Smith Sur. ..... Rigging up
Weaver & Osborn's No. 1 Will Reinhardt, 300 ft. from NW line, 1,200 ft. from NE line of Will Reinhardt 100-ac. tract in William Lewis, Jr., Sur. 2.... T.D. 248 ft.; standing.

WEBB COUNTY

Frank Garvis' No. 1 Yeager-Stroman, 200 ft. from S line, 450 ft. from E line of Share 5 in Los Animas grant ..... T.D. 2,160 ft.; drlg.

WILLIAMSON COUNTY

Alexander Drlg. Co.'s No. 1 J. & G. Kreig ..... T.D. 1,550 ft.; fishing.
R. L. Batts et al's No. 1 Rumel, 18 ft. from E line, 480 ft. from S line of 100-ac. tract in Booth Sur. .. T.D. 1,300 ft.; fishing.
Humble O. & R. Co.'s No. 1 Burns est., 825 varas from NW line, 1,495 varas from SW line of J. West Sur... T.D. 1,636 ft.; abd.; dry.
McLean et al's No. 2 R. C. Miller, 800 ft. to S line, 100 ft. to W line of tract, B. Manlove Sur. ..... T.D. 2,365 ft.; standing.
Pederson's No. 1 Forwood, 900 ft. from N and 1,200 ft. from E line of 160-ac. tract in Fisher Sur. ..... T.D. 950 ft.; no report.

ZAPATA COUNTY

F. G. Delaney's No. 1 Leonard Haines estate, 330 ft. from SE line, 2,970 ft. from SW line of Villa Grant Sur. ..... Rigging up.
J. C. O'Haver's No. 1 Bustamente, 330 ft. from N and E lines of 24-ac. tract in Share 24 of Las Comitas grant ..... T.D. 1,804 ft.; abd.
Circle W. Oil Co.'s No. 1 M. Garza est., 623 ft. from NW line and 699 ft. from SW line of Blk. 30, C. A. Douglas Subd. of Charco de la India grant ..... T.D. 1,742 ft.; standing.
J. P. Doyle's No. 1 I. Ramirez, 150 ft. from NW and SW lines of Blk. 15, Share 1, Porcion 18 ..... Spudded in and S.D.
Sarah Poppas' No. 1 Juan V. Cueller, Jr., 150 ft. from NE and SE lines of Blk. 3, Sur. 2 of Poppas Subd. of Por. 34 ..... T.D. 770 ft.; standing.
A. C. Savey et al's No. 1 Flores, 150 ft. from NW line, 206 ft. from NE line of Blk. 3, Share 1 of P. A. Richer Subd. of Porcion No. 38 ..... T.D. 2,404 ft.; abd.; hole lost.
Arthur H. Wray's No. 3 Gopher Trust Estate, 660 ft. from SW line, 330 ft. from SE line of Blk. 13, Sur. 1, Fullerton Subd. of Share 9 ..... T.D. 360 ft.; drlg.

ZAVALA COUNTY

Anglin O. & G. Co.'s No. 6 Pryor ..... T.D. 1,115 ft.; abd.; dry.

Southwest Texas Proven Areas

Week Ending November 25

SCHIMMEL POOL—BASTROP COUNTY

Marts & Beavens' No. 1 C. A. Smith, 700 varas from SE line, 1,150 varas from NE line of C. A. Smith 416-ac. tract in James Blalock Sur. No. 7 ..... T.D. 1,665 ft.; dry and abd.

NORTH DALE POOL—BASTROP COUNTY

Marts & Beavens' No. 1-B C. L. Riddle, 525 ft. from NW line, 2,176 ft. from SW line of John Maxmillian Sur. No. 22 ..... T.D. 2,107 ft.; tested 1 joint mud and some oil; to test again.
Ogden & Reed's No. 2 Tally, SE cor. of tract in J. Gray Sur. ..... T.D. 2,255 ft.; R.U. to pump.
Ogden & Reed's No. 1 Spradlin, 300 ft. from S line, 200 ft. from E line of 113-ac. tract in Grey Sur .T.D. 850 ft.; drlg. shale.

PETTUS POOL—BEE COUNTY

United Prod. Co.'s No. 3 Ray, 3,383 ft. from N line, 958 ft. from E line of Moore Sur. ..... T.D. 6,054 ft.; W.O. job; being P.B. to Pettus sand at 4,054 ft.

EAST COLE POOL—DUVAL COUNTY

Cole Pet. Co.'s No. 2 S. Benavides, 350 ft. from SE line, 300 ft. from SW line of Blk. 347 Hale Subd. of Arispe grant ..... Rigging up.
Motes-Campbell's No. 1 Bruni, 150 ft. from NE and SE lines of Sec. 493, Myrtle E. Hale Subd., Mariano Arispe grant ..... T.D. 20 ft.; spudded; waiting for wtr.

ECKERT POOL—BEXAR COUNTY

Alamo Nat. Gas Co.'s No. 2 Coreth, 300 ft. SE of Humble's No. 2 Coreth in A. Stafford Sur. ..... T.D. 630 ft.; drlg.
F. H. Eckert & Son's No. 3 Louis Brehm, 550 ft. from W line, 150 ft. from S line of 93-ac. tract in P. L. Buquor Sur. ..... Drlg.
F. H. Eckert & Son's No. 4 August Brehm, 250 ft. from E line, 300 ft. from N line of tract in Buquor Sur. ..... T.D. 1,260 ft.; drlg. chalk; S.G.
Gatlin Oil Co.'s No. 17 Mrs. Ida Beck, 565 ft. from NE line, 150 ft. from SE line of tract in Juan Montez Sur. ..... T.D. 450 ft.; drlg.
F. F. Harrison's No. 1 F. Gembler, 150 ft. from NW line, 460 ft. from NE line of 88-ac. tract in J. Montez Sur. ..... T.D. 675 ft.; standing.

VON ORMY POOL—BEXAR COUNTY

A. J. Trawalter's No. 1 fee, 1,200 ft. from N line, 1,000 ft. from W line of Flores Dessendier 202-ac. tract in Stephen Jett Sur. No. 53 ..... T.D. 605 ft.; drlg. in.
Von Ormy Oil Co.'s No. 2 E. B. Carruth, 515 ft. from W line, 1,970 ft. from S line of 160-ac. tract out of 657-ac. tract in F. Rolen Sur. ..... Derrick; laying wtr. line.

DUNLAP POOL—CALDWELL COUNTY

Bob Rose's No. 1-B J. M. Price, 150 ft. from NE and SE lines of J. M. and O. Pierce 100-ac. tract in S. Seal Sur. ..... T.D. 2,423 ft.; drlg.

WEBSTER POOL—CALDWELL COUNTY

C. J. Webster O. & G. Co.'s No. 2 McCroy, 750 ft. from S line, 150 ft. W of NE cor. of tract in John A. Neill Sur. ..... T.D. 150 ft.; set surface csg.

EAGLE HILL POOL—DUVAL COUNTY

Al Buchanan's No. 2 Duval County Ranch Co., 1,650 ft. from E line, 330 ft. from S line of S½ of N½ of Sur. No. 206 ..... T.D. 1,493 ft.; choked to 26 bbls. daily; est. 500 bbls. daily.
Al Buchanan's No. 1 Foster, 330 ft. from N line of S½ of Sur. 206, and 330 ft. from E line of lease ..... Spudded in and set surface csg.
R. D. Kelley's No. 2 Foster, 1,650 ft. from E line of survey, and 990 ft. S of N line of S½ of Sur. No. 206. T.D. 1,300 ft.; drlg.
Texas Co.'s No. 5-A Duval County Ranch Co., 330 ft. from S line, 1,650 ft. from E line of N½ of N½ of Sur. No. 206 ..... T.D. 1,497 ft.; comp. 10 bbls. hrly.

NORTH KOHLER POOL—DUVAL COUNTY

Highland and Shasta's No. 2-D Peters, 660 ft. W of No. 1-D Peters, or 1,650 ft. from E line, 330 ft. from N line of Strip Sur. No. 65 ..... T.D. 1,739 ft.; comp. 15,000,000 ft. gas.

NORTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Humble O. & R. Co.'s No. 22 Hahl, 1,046 ft. from S line, 339 ft. from W line of Sur. No. 74 ..... T.D. 2,336 ft.; drilled plugs; running screen.
Humble O. & R. Co.'s No. 22 Hahl, 1,762 ft. from S line, 330 ft. from W line in Sur. No. 74 ..... T.D. 2,320 ft.; comp. 30 bbls. hrly.
Humble O. & R. Co.'s No. 24 Hahl, 3,032 ft. from S line, 990 ft. from W line of Sur. No. 74 ..... T.D. 2,313 ft.; set csg.; W.O.C.
Humble O. & R. Co.'s No. 2 Duval County Ranch Co., 330 ft. from S line, 990 ft. from W line of NW of Sur. No. 262 ..... Rigging up.
K. O. T. Oil Co.'s No. 2 Lundell, 150 ft. from S and E line, N½ of SW of 40-ac. tract in Sec. 48 ..... Spudded in.
Magnolia Pet. Co.'s No. 7 Duval County Ranch Co., 990 ft. from W line, 330 ft. from S line of Sur. 208.. T.D. 1,775 ft.; drlg.
Magnolia Pet. Co.'s No. 8 Duval County Ranch Co., 330 ft. from E line, 990 ft. from S line of Sur. No. 208 ..... Rigging up.
Magnolia Pet. Co.'s No. 3 Lundell, 330 ft. from S line, 150 ft. from W line of SE of Sur. No. 60..... T.D. 2,250 ft.; testing.
Navarro Oil Co.'s No. 27 Hahl, 1,650 ft. from S and E lines of W½ of Sur. No. 360 ..... T.D. 2,275 ft.; coring.
Russ Pet. Co.'s No. 3 Riley, 965 ft. from S, 150 ft. to E lines of SW of NW of Sur. No. 46 ..... T.D. 700 ft.; drlg.

XUM

Rodney DeLange's No. 2 Lundell, 660 ft. from E line, 480 ft. from S line of SE SW of Sur. No. 60 ..... Rigging up.
Reynosa Oil Corp.'s No. 6-A Duval Ranch Co., 330 ft. from N and E lines of N½ of SW of Sur. No. 362.. Rigging up.
Reynosa Oil Co.'s No. 2-D Duval County Ranch Co., 330 ft. from S and W lines of S½ SW Sur. No. 362.. T.D. 2,299 ft.; set csg.; W.O.C.
Sun Oil Co.'s No. 9 Weiderkehr, 990 ft. from N line, 300 ft. from E line of Sur. No. 359..... T.D. 2,299 ft.; set csg.; W.O.C.
Sun Oil Co.'s No. 13 Weiderkehr, 1,650 ft. from N line, 330 ft. from E line in Sur. No. 361..... T.D. 2,252 ft.; set csg.; W.O.C.
Sun Oil Co.'s No. 12 Weiderkehr, 990 ft. from E line, 330 ft. from N line of Sur. No. 361 ..... T.D. 2,290 ft.; set csg.; W.O.C.
Texas Co.'s No. 6 W. C. Rigga, 330 ft. from S and W lines of E½ NW of Sur. No. 46 ..... T.D. 2,295 ft.; testing.
Texas Co.'s No. 1 fee, 990 ft. from N line, 330 ft. from W line of SE of Sur. No. 362 ..... T.D. 2,295 ft.; comp. 50 bbls. hrly.

SOUTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Humble O. & R. Co.'s No. 13 Paul White, 2,300 ft. from E line, 300 ft. from N line of Sur. No. 249..... T.D. 2,224 ft.; set csg.; W.O.C.
Humble O. & R. Co.'s No. 12 Paul White, 1,650 ft. from S and E lines of Sur. No. 249 ..... T.D. 2,288 ft.; flowing by heads; small well.

S. R. C. POOL—DUVAL COUNTY

S. R. C. Oil Co.'s No. 10 Duval County Ranch Co., 100 ft. from S line, 1,153 ft. from E line of Sur. No. 295. T.D. 70 ft.; waiting for wtr.

NEW BERLIN POOL—GUADALUPE COUNTY

J. A. Harper's No. 2 Rosenbrook, 66½ ft. SW of No. 1... T.D. 225 ft; set 10-in. csg.; W.O.C.

JACOBS POOL—McMULLEN COUNTY

Lema Oil Co.'s No. 18-A Jacobs, 660 ft. S of No. 11, in W. H. Jacobs Sur. No. 3 ..... Derrick.
Longhorn Oil Co.'s No. 3-A Lark, 450 ft. from N line, 150 ft. from W line of Blk. 14, of Subd. of Lark land in E. W. B. Scrugham Sur. ..... T.D. 1,030 ft.; C.O.
Kannon & Stephenson's No. 1 Lark, 150 ft. from N and W lines of Blk. 15, subd. of Lark land in E. W. B. Scrugham Sur. ..... T.D. 1,032 ft.; set csg.; W.O.C.

CUEVITAS POOL—STARR COUNTY

Mima, Hamill & Evans' No. 1 M. Guerra, 330 ft. from E line, 330 ft. from S line of Share M-10, in Las Cuevitas grant ..... Spudded in.
Wm. McGinley's No. 2 Guerra, 320 ft. from SW and NW lines of Blk. 22 of McGinley Subd. of Porcion No. 110 ..... Rigging up.
Sun Oil Co.'s No. 9-A Guerra, 4,620 ft. from NW line, 660 ft. from SW line of Share H-14-B of Cuevitas grant ..... Derrick.
Sun Oil Co.'s No. 2-B Guerra, 1,320 ft. from SW line, 660 ft. from SE line of Share H-14-B, in Las Cuevitas grant ..... T.D. 2,269 ft.; comp. 400 bbls. dly.
Sun Oil Co.'s No. 1-D Guerra, 6,353 ft. from NE line, 3,300 ft. from SE line of La Sacatosa grant .... Rigging up.
Sun Oil Co.'s No. 6-A Guerra, 1,320 ft. E of No. 7-A and on 1,360-ac. tract, or 1,980 ft. to NW, 3,300 ft. to SW of No. 14-B in Las Cuevitas grant ..... T.D. 3,460 ft.; abd.; dry.

CAROLINA-TEXAS POOL—WEBB COUNTY

Carolina-Texas Oil & Gas Trust's No. 11 Benavides, 150 ft. from S line, 600 ft. from W line of Blk. 13 in Sur. No. 683 ..... T.D. 2,120 ft.; coring.

BYERSVILLE POOL—WILLIAMSON COUNTY

Fritz Fuch's No. 1 C. W. Johnson, 600 ft. from SE line, 700 ft. from NE line of tract in P. Cartwright Sur. ..... Derrick.
Taylor Prod. Co.'s No. 3 Zeischang, 250 ft. N of creek, 200 ft. from NE line of tract in H. White Sur. T.D. 1,130 ft.; abd.; dry.

ESCOBAS POOL—ZAPATA COUNTY

Texas Co.'s No. 34 Whitehead, 2,656 ft. from SE line, 19,980 ft. from SW line of Cerrito Blanco Sur. .... T.D. 1,202 ft.; comp. 60 bbls.
W. E. West and J. P. Perry's No. 1 Garcia, 1,200 ft. from NW line, 200 ft. from NE line of Share 2 of Comitas grant ..... Spudded in.

JENNINGS POOL—ZAPATA COUNTY

United Prod. Corp.'s No. 11 Measles, 3,483 ft. from NW line, 16,500 ft. from SW line of Cerrito Blanco grant ..... T.D. 4,377 ft.; drlg.

MARTINEZ POOL—ZAPATA COUNTY

W. R. Shankle and Wm. McGinley's No. 1 Manuel T. Heirs, 330 ft. from E line, 300 ft. from S line of Blk. 16 in Sur. No. 411 ..... T.D. 1,647 ft.; set csg.; W.O.C.; showed gas.

United Prod. Co.'s No. 2 Henne-Winch, 660 ft. from S line, 150 ft. from W line of Blk. 8, Sur. No. 286.... T.D. 1,707 ft.; set csg.; W.O.C.

Wildcat Operations in Louisiana-Arkansas

(Continued from Page 53)

Gerhig Oil Co.'s No. 1 Burkett, 330 ft. S and W, NE cor. SE SE Sec. 9-9-13 ..... Set 6-in. 1,500 ft.
Helena O. & G. Co.'s No. 2 Chambliss, 330 ft. S and E, NW cor. SW NE Sec. 20-9-13 ..... Drlg. 1,830 ft.
Helena O. & G. Co.'s No. 1 C. E. Pugh, 330 ft. N and E, SW cor. NE Sec. 19-9-13 ..... Drlg. 1,826 ft.
Helena O. & G. Co.'s No. 1 J. W. Tatum, 330 ft. N and W, SE cor. NE SE Sec. 9-9-13 ..... Testing 1,546 ft.
Helena O. & G. Co.'s No. 1 E. K. Harris, 990 ft. S and W, C Sec. 10-9-13 ..... Testing 1,955 ft.
Mamie S. Hammond's No. 1 Patrick, 330 ft. N, 2,310 ft. W, SE cor. Sec. 1-9-13 ..... T.A. 3,235 ft.
R. P. Holland et al's No. 1 A. J. Burkett, 990 ft. N, 330 ft. W of C, Sec. 10-9-13 ..... Drlg. 800 ft.
Lula M. Layton's No. 1 Henderson, 330 ft. N, 990 ft. E, C, Sec. 29-9-13 ..... Drlg. 1,320 ft.
H. C. Lessinger's No. 1 Bowman-Hicks Lbr. Co., 338 ft. S and E, NW cor. SW Sec. 13-9-13 ..... Coring 3,283 ft.
Miles & Strickland's No. 1 Ross & Son, 150 ft. N, 900 ft. E, SW cor. NW Sec. 10-9-13 ..... Rigging up.
Joe Modisette's No. 4 Frost Lumber Co., 990 ft. W, 330 ft. from C Sec. 21-9-13 ..... W.O.S.R. 1,980 ft.
John W. Moffett's No. 1 Logan Oil Co., Sec. 3-9-13 ... Drlg. 1,676 ft.
L. L. Posey's No. 1 A. J. Burkett, 330 ft. N and W, SE cor. S½ NE NW Sec. 10-9-13 ..... Set 6⅝-in. 1,470 ft.; drlg. 1,790 ft.
J. E. Sedbury's No. 1 E. K. Harris, 990 ft. W, 330 ft. S, C Sec. 10-9-13 ..... Comp. flowing 500 bbls.; 1,852 ft.
Tex.-La.-Ark. Oil Co.'s No. 1 Bowman-Hicks, 295 ft. N, 440 ft. E, SW cor. SW NW Sec. 23-9-13..... Drlg. 1,800 ft.
Homer Tyson's No. 1 G. W. Hough, 330 ft. S and E, NW cor. SW NW Sec. 31-9-13 ..... S.D. 40 ft.
Windsor Oil Co.'s No. 2 Barr, 330 ft. N and E, SW cor. NW Sec. 16-9-13 ..... Location.

SABINE—ZWOLLE

H. C. Maulding's No. 1 Alford, 330 ft. S and W, NE cor. NW NW Sec. 18-7-10 ..... Derrick (corrected).
H. C. Maulding's No. 1 Van Vickhaven, 330 ft. N and W, SE cor. NE Sec. 3-7-11 ..... Set 10-in. 40 ft.

WEBSTER PARISH

J. P. Evans' No. 1 Burson, 357 ft. N and E SW cor. NW SE Sec. 27-18-9 ..... Drlg. 3,515 ft.

Arkansas

COLUMBIA COUNTY

C. W. Alworth et al's No. 1 W. D. King, SW cor. SE SW Sec. 16-17-20 ..... Drlg. 2,635 ft.
O. F. Whittaker's No. 1 Garner, C SW NE Sec. 11-15-20.. Set 6-in. 2,089 ft.; T.D. 2,093 ft.

JEFFERSON COUNTY

J. E. Elliott's No. 1 B. V. Nevin, 440 ft. N and E, SW cor. SW NW Sec. 26-4-10 ..... Rigging up.

HEMPSTEAD COUNTY

A. H. Bagnelle's No. 1 Trattner & Rhinehart, Sec. 2-13-26. S.D. 1,965 ft.
Kentucky O. & G. Co.'s No. 1 Leslie, NW cor. SW NW Sec. 21-9-26 ..... Derrick.

LAFAYETTE COUNTY

George W. Harper's No. 2 Bodcaw, 150 ft. S, 550 ft. E NW cor. SW NW Sec. 16-15-22 ..... S.D. 1,199 ft.

LITTLE RIVER COUNTY

M. E. Sanderson's No. 1 Hale, Sec. 22-12-29 ..... S.D. 1,851 ft.

LONOKE COUNTY

Joe D. Strahan's No. 1 Hardin, 300 ft. S and E, NW cor. NW NW Sec. 18-2s-7 ..... Reaming 650 ft.

MILLER COUNTY

Duluth-Ark. Oil Co.'s No. 2 Beck, 330 ft. S and E, NW cor. SE SW Sec. 34-15-26 ..... Recmtng. 6-in. 2,804 ft.

OUACHITA COUNTY

F. G. Harrell's No. 1 Poindexter, 330 ft. S and E NW cor. Sec. 35-15-18 ..... Arranging to set 7-in. 2,200 ft; T. D. 2,340 ft.
I. D. Reynolds' No. 1 Snow Hill Baptist Church, 525 ft. E, 115 ft. S, NW cor. SE SW Sec. 28-15-15..... Arranging to run tubing 2,040 ft.

POINSETT COUNTY

Ark. State O. & G. Co.'s No. 1 fee, C NE NE Sec. 13-11-3e ..... Derrick.

UNION COUNTY

E. R. Henderson's No. 2 J. H. Ogden, 330 ft. S and E, NW cor. SW SE Sec. 32-18-14 ..... W.O.S.R. 2,208 ft.
Marine Oil Co.'s No. 2 Union Sawmill Co., 330 ft. S and E, NW cor. SE SE Sec. 3-18-13 ..... Drlg. 2,996 ft.
Chas. Steele's No. 1 J. B. Comba, 150 ft. N, 185 ft. W, SE cor. SW NW Sec. 25-18-16 ..... Rigging up.

WOODRUFF COUNTY

John Watkins' No. 1 Rosser, Sec. 7-5n-2w ..... S.D. 1,300 ft.

Mississippi

LAMAR COUNTY

Lamar Oil Co.'s No. 1 Scott, NE NE Sec. 18-2n-14..... S.D. 3,010 ft.

MADISON COUNTY

H. A. Wilson, tr.'s No. 1 Copex, 200 ft. N and E, SW cor. SW NE Sec. 24-9-3e ..... S.D. 1,950 ft.

NEWTON COUNTY

Bob Dalton et al's No. 2 Majure, SE SE Sec. 25-6-11 Drlg. 2,950 ft.

RANKIN COUNTY

Hill Bros. and Cleve Love's No. 1 Lancaster, C SW NW Sec. 27-5-5e ..... Rigging up.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, Sec. 24-2n-9e, SW cor. SW SE ..... Moving in rig.

WARREN COUNTY

Orbet Drlg. Co.'s No. 1 R. L. Parker, 300 ft. E, CWL, Sec. 14-14-1e ..... Drlg. 1,520 ft.

Louisiana-Arkansas Proven Areas

North Louisiana

BOSSIER PARISH

Company, well, farm name, section and block—	Remarks:
United Gas Public Service Co.'s No. 1 Skannell unit, 1,317 ft. N, 1,274 ft. E, SW cor. Sec. 12-17-12.....	Blowing 40,000,000 ft. gas 3,220 ft.

CADDO PARISH—BETHANY

Calatex O. & G. Co.'s No. 1 Taylor, SW SE Sec. 34-17-16. Testing 2,892 ft.

CADDO—RODESSA

R. W. Norton's No. 1-B J. B. French, 660 ft. S and E, NW cor., Sec. 34-23-16 ..... Set 13-in. 261 ft.; drlg. 2,050 ft.

CADDO—PINE ISLAND

Ark.-La.-Tex. O. & G. Co.'s No. 1 Simon, 330 ft. N and E, SW cor. NW Sec. 15-20-15 ..... S.D. 41 ft.

CADDO—HOSSTON

C. D. Whittaker et al's No. 2 Barker, 1,150 ft. N, 1,900 ft. E, SW cor. Sec. 21-22-15 ..... Drlg. 1,010 ft.

DE SOTO PARISH

Tom McKinney et al's No. 1 J. M. Nabors, 330 ft. N and E, SW cor. SE SE Sec. 36-12-13 ..... Rig up.

MOREHOUSE PARISH

United Carbon Co.'s No. 1 Montgomery, 1,339 ft. S, 2,268 ft. E of C Sec. 9-21-51 ..... Set 12-in. 177 ft.; drlg. 1,575 ft.

SABINE PARISH—ZWOLLE

Century Carbon Co.'s No. 1 Breard, 238 ft. S, 455 ft. E, NW cor. Sec. 15-18-4e ..... Set 10-in. 134 ft.
J. C. Chandler's No. 1 Rains, SW cor. NW Sec. 14-7-11.. S.D. 2,508 ft.
Crescent Drlg. Co.'s No. 1-A Billbray, 330 ft. S and E, NW cor. NW NE Sec. 32-8-11 ..... Using acid 2,525 ft.
Dyer et al's No. 1 McCollister, 330 ft. S and E, NW cor. SW NE Sec. 24-7-12 ..... Derrick.
Investors Prod. Co.'s No. 1 S. J. Williams, 600 ft. E and S, NW cor. Sec. 24-7-11 ..... Pumping 15 bbls. 2,665 ft.
Magnolia Pet. Co.'s No. 1 Semon Lilly, NE cor. SE NW Sec. 8-7-11 ..... Rigging up.
Magnolia Pet. Co.'s No. 2 Gindratt, 330 ft. N, 320 ft. E, SW cor. SE Sec. 30-8-11 ..... T.A. 2,485 ft.
Pelican Nat. Gas Co.'s No. 26 La. Long Leaf, SW NW Sec. 29-8-11 ..... Set 10-in. 60 ft.; drlg. 720 ft.
Pelican Nat. Gas Co.'s No. 25 La. Long Leaf, 584 ft. S, 300 ft. E, NW cor. NE NE Sec. 31-8-11 ..... S.D. 2,600 ft.
Pelican Nat. Gas Co.'s No. 24 La. Long Leaf Lbr. Co., 330 ft. N and E, SW cor. Sec. 5-7-11..... Bailed dry; W.O. 2,750 ft.
Pelican Nat. Gas Co.'s No. 10 Sabine Lbr. Co., 330 ft. S and W NE cor. SE NE Sec. 7-7-11 ..... Set 7-in. 2,308 ft.
Pugh-Hickman's No. 8 Stille, 330 ft. S and E, NW cor. Sec. 16-7-11 ..... Set 10-in. 40 ft.
Rig Oil Co.'s No. 1 Walden, 330 ft. N and E, SW cor. NW NE Sec. 28-8-11 ..... Derrick.
C. T. Ruffin's No. 1 Sabine Lbr. Co., 330 ft. N, 80 ft. W, SE cor. NE NE Sec. 7-7-11 ..... Testing 2,389 ft.
C. T. Ruffin's No. 1 McNeely, 510 ft. S, 330 ft. W, NE cor. NE NE Sec. 7-7-11 ..... T.A. 2,550 ft.
L. J. Tillery's No. 1 Sabine Lbr. Co., 800 ft. S, 220 ft. W, NE cor. Lot 3, La. Nava grant, Sec. 5-7-11..... Rigged up and S.D.
C. H. Tuttle's No. 4 Byrd, 800 ft. S, 920 ft. E, NW cor. NW NW Sec. 7-7-10 ..... Dry and abd. 2,606 ft.

UNION COUNTY

Southern Carbon Co.'s No. 63 fee, 660 ft. S, 660 ft. E of center Sec. 7-20-4e ..... Set 6-in. 2,099 ft.

Mississippi

HINDS COUNTY

B. B. Jones' No. 1 McRae, 530 ft. W, 540 ft. N, SE cor. SW NW Sec. 24-7n-1w ..... Drlg. 1,890 ft.
B. B. Jones' No. 1 Stone, 500 ft. S, 100 ft. E, NW cor. Sec. 15-5n-3e ..... Drlg. wtr. well.
Love & Lancaster's No. 2 Elton plantation, NE Sec. 9-4-1e ..... S.D. 5 ft.
Meredith Trading Co.'s No. 1 Nelson et al, 630 ft. E, 330 ft. S, NW cor. SW SE Sec. 24-6-1e ..... S.D. for csg. 2,431 ft.

RANKIN COUNTY

Ferguson, Fuller & Metz' No. 1 Ammons, 350 ft. E and S, NW cor. NW NW Sec. 25-3n-3e ..... Rigged up.
Cleve Love et al's No. 1 Thomas, SW Sec. 10-4-1e..... Drlg. 3,440 ft.

EAST TEXAS (Border Counties)

MARION COUNTY

Perry et al's No. 1 E. B. Colgin, 300 ft. N and E, SW cor. Martin Noll Sur. ..... S.D. 1,400 ft.

PANOLA COUNTY

W. H. Nichols et al's No. 1 S. W. Ray, 330 ft. S of N line, 330 ft. W of E line, W. P. Culver Sur. ..... Fishing 1,850 ft.
M. H. Robbins et al's No. 1 Aisee Williams, 165 ft. N and E, SW cor. 20-ac. tract in Winnie Mann Sur. .. Coring 2,099 ft.
C. R. Obermeyer et al's No. 1 T. J. Wooten, P. Martin Sur. ..... S.D. 2,110 ft.

XUM

O. W. Killam's No. 4 Wood-Welder, 500 ft. from N line, 200 ft. from W line in Sur. No. 102.....T.D. 300 ft.; drlg.
G. G. Mortimer's No. 2 Peal, 330 ft. from S and E lines of W½ of Sur. No. 796 .....T.D. 1,820 ft.; drlg.
W. A. Smith's No. 1 Holsapfel, west central part of lease in 900 ft. W of NE cor. of Sur. 344 and 150 ft. from N line of Sur. No. 43 .....T.D. 1,500 ft.; drlg.
Trinity Drillers' No. 1 Hagist, 1,650 ft. from S line, 2,310 ft. from E line of B.B.B.&C. Sur. No. 1 .....T.D. 2,244 ft.; coring for Miranda sand.
Plymouth Oil Co.'s No. 2 Hoffman, 1,650 ft. from NW line, 330 ft. from NE line of Sur. No. 114 .....T.D. 2,830 ft.; abd.
Whitting's No. 1 Duval County Ranch Co., 1,511 ft. from S line, 2,143 ft. from W line of Blk. 31, of Sur. No. 196 .....T.D. 1,502 ft.; standing.

EDWARDS COUNTY

Love and Evans' No. 1 Steve Brown, 660 ft. from N and E lines of Sec. 66, G.W.T.&P.R.R. Sur., 15 miles W of Rock Springs .....T.D. 2,900 ft.; drlg.

FRIO COUNTY

Amerada Pet. Corp.'s No. 1 Frank Doering, 34 ft. from W line, 1,700 ft. from S line of Tract No. 7 in Maria Louisa Carranza Sur. No. 302 .....T.D. 5,960 ft.; core 5,935-45 ft.; recovered 9½ ft. chalky shale; cored 5,945-53 ft. recovered 5 ft. of shale and little chalk.

GILLESPIE COUNTY

Powers et al's (Nixon-Dore) No. 1 Andrew Lindig, 18 mi. E of Fredericksburg .....T.D. 1,194 ft.; fishing

GONZALES COUNTY

Vols & Shelling's No. 1 Bennett Botts et al, 150 ft. from W line, 300 ft. from N line of 420-ac. tract, lease in Gonzales Sur. .....T.D. 500 ft.; drlg.

GUADALUPE COUNTY

A. F. Barnhill's No. 3 F. A. Phullman, 1,300 ft. from N line, 152 ft. from E line of lease in L. Bollinger Sur. .....Rigging up.
Potter et al's No. 1 Greenwood est., 470 varas from W line, 940 varas from NW line of Archibold Gibson Sur. .....Rigging up.
L. E. Trout's No. 1 Mrs. M. McKee, 650 ft. from W and 150 ft. from N line of 239-ac. tract in Green Dewitt Sur., 4 miles SW from Darst Creek .....Delayed finding a contractor.

JIM WELLS COUNTY

Plymouth Oil Co.'s No. 1 Cuero Cattle Co., 330 ft. from S and W lines of H.T.&B. Sur. No. 7, 2½ miles W from Alfred .....Rigging up.
Trinity Drillers' No. 1 Seeligson, 330 ft. from N and E lines of Sec. 71, of R. P. Haldeman Subd., and in S.K.&K. Sur. No. 215 .....T.D. 2,600 ft.; testing sand 2,574-2,600 ft.; showed a little oil; no pressure; D.D.

KARNES COUNTY

Arrowhead Drlg. Co.'s No. 1 Rudd, 1,320 ft. from S and E lines of 524-ac. tract in Adriance Sur. .....T.D. 1,982 ft.; standing in shale
C. J. Webster's No. 1 J. B. Cannon, 1,140 ft. from N line, 250 ft. from E line of 80-ac. tract in Lambrano Sur. .....T.D. 1,645 ft.; drlg.

KENDALL COUNTY

W. E. Waldrip's No. 1 Charles Meckel, 300 ft. from E line, 3,300 ft. from S line of Thos. J. Sweeney Sur. No. 10 .....T.D. 415 ft.; drlg.

KERR COUNTY

J. E. Anderson's No. 1 J. D. Witt, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 1,923, in Hamilton Sur., 4 miles S of Center Point .....T.D. 1,885 ft.; standing in shale and sand.
Van Duyn & Moore's No. 1 Nowlin, 2,000 ft. from E line, 2,200 ft. from N line of Jas. R. Bettner Sur. No. 99 .....T.D. 1,040 ft.; standing.

LA SALLE COUNTY

Equity Oil Co.'s No. 1 Rogers, 202 ft. from E line, 455 ft. from S line of lease in Atascosa County School Land Sur. No. 300 .....T.D. 310 ft.; moving in heavier rig.
W. H. Wallace's No. 1 H. C. Yeager, 150 ft. from S and E lines of Sur. No. 95 .....T.D. 2,205 ft.; standing.

LIVE OAK COUNTY

M. P. Howard's No. 1 Alexander, 2,700 ft. from N line, 150 ft. from E line of 500-ac. tract, 3 miles NE of Calliham .....T.D. 1,223 ft.; abd.; hole jumped
S. B. Hood's No. 1 Byler, 150 ft. from NW and NE lines of Sur. No. 91 .....Derrick up and slush pits dug.

McMULLEN COUNTY

Armoil Prod. Co.'s No. 1 Kate Martin, 1,470 ft. from SE line, 1,470 ft. from SW line of H.T.&B. Sur. No. 9 .....T.D. 900 ft.; S.D. over week-end for fuel; showed oil, gas and S.W. at 700 ft.
Paul C. Teas' No. 3 Hagist, 330 ft. from N and W lines of Sec. 19 .....T.D. 1,875 ft.; drlg.
Pitkin-Goldston Oil Co.'s No. 1 Hagist, 330 ft. from N line, 900 ft. from E line of G. B. McKinney Sur. No. 467 .....T.D. 1,300 ft.; drlg.

MEDINA COUNTY

O. R. Framme's No. 1 E. Boelke, 987 ft. from N line, 600 ft. from E line of 102-ac. tract in S. Huth Sur. No. 10 .....T.D. 400 ft.; S.D.

MILAM COUNTY

B. F. Robinson's No. 1 W. M. Caffey, 150 ft. N and E, of SE cor. of B. P. Duncan Sur. in SW cor. of 50-ac. Caffey tract in J. Bright Sur. .....Rigging up.

NUECES COUNTY

Banquette Oil Co.'s No. 1 T. C. Ingram, 330 ft. from N and W lines of 80-ac. tract, Blk. 6, Sec. 7, of S. R. Peters Sur. .....T.D. 4,879 ft.; erecting tank and separator.
Benedum & Trees' No. 1 J. O. Pickham, 1,812 ft. to S line, 400 ft. E of 204-ac. tract in G. Faris Sur. .....T.D. 3,675 ft.; drlg.
A. C. Erwin's No. 1 Sagarin, 520 ft. from N, 160 ft. from E line of 35-ac. tract in Sec. 4, H. L. Kenney Sur. .....T.D. 4,408 ft.; drlg.
S. F. Hurlbut and Southwest Oil Co.'s No. 1 Poenisch, center Blk. 2, Sec. 32, Flowerbluff & Encinal farm, 8 miles S from Corpus Christi .....T.D. 5,242 ft.; rock.

STARR COUNTY

Accumulative Royalty Co.'s No. 1 Martinez, 300 ft. from S line, 500 ft. from W line of C.C.S.D.&R. G.N.G. Sur. No. 317 .....T.D. 2,200 ft.; drlg.
Goodwin & Yantis' No. 1 Kelsey Bass, 150 ft. from S and E lines of Blk. 8, Coast O. & G. Subd. of Secs. 2 and 3, Porcions 86-87 .....T.D. 1,040 ft.; standing.
Goodwin and Yantis' No. 2 Walker, 3,000 ft. from S line, 2,000 ft. from W line of Sur. No. 767 .....T.D. 2,400 ft.; no report.
Myers, Sullivan & Jenkins' No. 1 Starr County Cattle Co., 330 ft. from N line, 330 ft. from W line, Blk. 62, Porcion 89, Share 60 .....T.D. 2,300 ft.; drlg.
R. D. Perkins & Hoffman's No. 1 E. A. Peffler, 3,090 ft. from W line, 2,480 ft. from S line of Sur. 935..T.D. 80 ft.; standing.

TRAVIS COUNTY

Franklin et al's No. 1-A Reimers, 1,200 ft. from SE line, 1,400 ft. from most southerly SW line of Sur. No. 35 .....T.D. 910 ft.; drlg.
Fritz Fuch's No. 2-B Smith est., 900 ft. from NW line, 300 ft. from W line of Blk. 16, L. Kimbro Sur. ....Rigged up and standing.
Marts & Beavens' No. 1 Sandahl, 150 ft. from N and E lines of 106-ac. tract in Thos. Smith Sur. .....Rigging up
Weaver & Osborn's No. 1 Will Reinhardt, 300 ft. from NW line, 1,200 ft. from NE line of Will Reinhardt 100-ac. tract in William Lewis, Jr., Sur. 2....T.D. 248 ft.; standing.

WEBB COUNTY

Frank Garvis' No. 1 Yeager-Stroman, 200 ft. from S line, 450 ft. from E line of Share 5 in Los Animas grant .....T.D. 2,160 ft.; drlg.

WILLIAMSON COUNTY

Alexander Drlg. Co.'s No. 1 J. & G. Kreig .....T.D. 1,550 ft.; fishing.
R. L. Batts et al's No. 1 Rumel, 18 ft. from E line, 480 ft. from S line of 100-ac. tract in Booth Sur. ..T.D. 1,300 ft.; fishing.
Humble O. & R. Co.'s No. 1 Burns est., 825 varas from NW line, 1,495 varas from SW line of J. West Sur...T.D. 1,636 ft.; abd.; dry.
McLean et al's No. 2 R. C. Miller, 800 ft. to S line, 100 ft. to W line of tract, B. Manlove Sur. .....T.D. 2,265 ft.; standing.
Pederson's No. 1 Forwood, 900 ft. from N and 1,200 ft. from E line of 160-ac. tract in Fisher Sur. .....T.D. 950 ft.; no report.

ZAPATA COUNTY

F. G. Delaney's No. 1 Leonard Haines estate, 330 ft. from SE line, 2,970 ft. from SW line of Villa Grant Sur. .....Rigging up.
J. C. O'Haver's No. 1 Bustamente, 330 ft. from N and E lines of 24-ac. tract in Share 24 of Las Comitas grant .....T.D. 1,804 ft.; abd.
Circle W. Oil Co.'s No. 1 M. Garza est., 623 ft. from NW line and 699 ft. from SW line of Blk. 30, C. A. Douglas Subd. of Charco de la India grant .....T.D. 1,742 ft.; standing.
J. P. Doyle's No. 1 I. Ramires, 150 ft. from NW and SW lines of Blk. 15, Share 1, Porcion 18 .....Spudded in and S.D.
Sarah Poppas' No. 1 Juan V. Cueller, Jr., 150 ft. from NE and SE lines of Blk. 3, Sur. 2 of Poppas Subd. of Por. 34 .....T.D. 770 ft.; standing.
A. C. Savoy et al's No. 1 Flores, 150 ft. from NW line, 300 ft. from NE line of Blk. 5, Share 1 of P. A. Richer Subd. of Porcion No. 86 .....T.D. 2,404 ft.; abd.; hole lost.
Arthur H. Wray's No. 3 Gopher Trust Estate, 660 ft. from SW line, 330 ft. from SE line of Blk. 13, Sur. 1, Fullerton Subd. of Share 9 .....T.D. 360 ft.; drlg.

ZAVALA COUNTY

Anglin O. & G. Co.'s No. 6 Pryor .....T.D. 1,115 ft.; abd.; dry.

Southwest Texas Proven Areas

Week Ending November 25

SCHIMMEL POOL—BASTROP COUNTY

Marts & Beavens' No. 1 C. A. Smith, 700 varas from SE line, 1,150 varas from NE line of C. A. Smith 415-ac. tract in James Bialock Sur. No. 7 .....T.D. 1,665 ft.; dry and abd.

NORTH DALE POOL—BASTROP COUNTY

Marts & Beavens' No. 1-B C. L. Riddle, 525 ft. from NW line, 2,176 ft. from SW line of John Maxmillian Sur. No. 22 .....T.D. 2,107 ft.; tested 1 joint mud and some oil; to test again.
Ogden & Reed's No. 2 Tally, SE cor. of tract in J. Gray Sur. .....T.D. 2,255 ft.; R.U. to pump.
Ogden & Reed's No. 1 Spradlin, 300 ft. from S line, 200 ft. from E line of 113-ac. tract in Grey Sur .T.D. 350 ft.; drlg. shale.

PETTUS POOL—BEE COUNTY

United Prod. Co.'s No. 3 Ray, 3,388 ft. from N line, 958 ft. from E line of Moore Sur. .....T.D. 6,054 ft.; W.O. job; being P.B. to Pettus sand at 4,054 ft.

EAST COLE POOL—DUVAL COUNTY

Cole Pet. Co.'s No. 2 S. Benavides, 350 ft. from SE line, 300 ft. from SW line of Blk. 347 Hale Subd. of Arispe grant .....Rigging up.
Motes-Campbell's No. 1 Bruni, 150 ft. from NE and SE lines of Sec. 493, Myrtle E. Hale Subd., Marano Arispe grant .....T.D. 20 ft.; spudded; waiting for wtr.

ECKERT POOL—BEXAR COUNTY

Alamo Nat. Gas Co.'s No. 2 Coreth, 300 ft. SE of Humble's No. 2 Coreth in A. Stafford Sur. .....T.D. 630 ft.; drlg.
F. H. Eckert & Son's No. 3 Louis Brehm, 550 ft. from W line, 150 ft. from S line of 93-ac. tract in P. L. Buguor Sur. ..... Drlg.
F. H. Eckert & Son's No. 4 August Brehm, 250 ft. from E line, 300 ft. from N line of tract in Buquor Sur. .....T.D. 1,260 ft.; drlg. chalk; S.G.
Gatlin Oil Co.'s No. 17 Mrs. Ida Beck, 565 ft. from NE line, 150 ft. from SE line of tract in Juan Montez Sur. .....T.D. 450 ft.; drlg.
F. F. Harrison's No. 1 F. Gembler, 150 ft. from NW line, 460 ft. from NE line of 88-ac. tract in J Montez Sur. .....T.D. 675 ft.; standing.

VON ORMY POOL—BEXAR COUNTY

A. J. Trawalter's No. 1 fee, 1,200 ft. from N line, 1,000 ft. from W line of Flores Dessendier 202-ac. tract in Stephen Jett Sur. No. 53 .....T.D. 605 ft.; drlg. in.
Von Ormy Oil Co.'s No. 2 E. B. Carruth, 515 ft. from W line, 1,970 ft. from S line of 160-ac. tract out of 657-ac. tract in F. Rolen Sur. .....Derrick; laying wtr. line.

DUNLAP POOL—CALDWELL COUNTY

Bob Rose's No. 1-B J. M. Price, 150 ft. from NE and SE lines of J. M. and O. Pierce 100-ac. tract in S. Seal Sur. .....T.D. 2,433 ft.; drlg.

WEBSTER POOL—CALDWELL COUNTY

C. J. Webster O. & G. Co.'s No. 2 McCroy, 750 ft. from S line, 150 ft. W of NE cor. of tract in John A. Neill Sur. .....T.D. 150 ft.; set surface csg.

EAGLE HILL POOL—DUVAL COUNTY

Al Buchanan's No. 2 Duval County Ranch Co., 1,650 ft. from E line, 330 ft. from S line of S½ of N½ of Sur. No. 206 .....T.D. 1,493 ft.; choked to 36 bbls. daily; est. 500 bbls. daily.
Al Buchanan's No. 1 Foster, 330 ft. from N line of S½ of Sur. 206, and 330 ft. from E line of lease .....Spudded in and set surface csg.
R. D. Kelley's No. 2 Foster, 1,650 ft. from E line of survey, and 990 ft. S of N line of S½ of Sur. No. 206. T.D. 1,300 ft.; drlg.
Texas Co.'s No. 5-A Duval County Ranch Co., 330 ft. from S line, 1,650 ft. from E line of N¼ of N½ of Sur. No. 206 .....T.D. 1,497 ft.; comp. 10 bbls. hrly.

NORTH KOHLER POOL—DUVAL COUNTY

Highland and Shasta's No. 2-D Peters, 660 ft. W of No. 1-D Peters, or 1,650 ft. from E line, 330 ft. from N line of Strip Sur. No. 65 .....T.D. 1,739 ft.; comp. 15,000,000 ft. gas

NORTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Humble O. & R. Co.'s No. 22 Hahl, 1,046 ft. from S line, 339 ft. from W line of Sur. No. 74 .....T.D. 2,336 ft.; drilled plugs; running screen.
Humble O. & R. Co.'s No. 22 Hahl, 1,762 ft. from S line, 330 ft. from W line in Sur. No. 74 .....T.D. 2,320 ft.; comp. 30 bbls. hrly.
Humble O. & R. Co.'s No. 24 Hahl, 3,082 ft. from S line, 990 ft. from W line of Sur. No. 74 .....T.D. 2,313 ft.; set csg.; W.O.C.
Humble O. & R. Co.'s No. 2 Duval County Ranch Co., 330 ft. from S line, 990 ft. from W line of NW of Sur. No. 362 .....Rigging up.
K. O. T. Oil Co.'s No. 2 Lundell, 150 ft. from S and E line, N½ of SW of 40-ac. tract in Sec. 48 .....Spudded in.
Magnolia Pet. Co.'s No. 7 Duval County Ranch Co., 990 ft. from W line, 330 ft. from S line of Sur. 208..T.D. 1,775 ft.; drlg.
Magnolia Pet. Co.'s No. 8 Duval County Ranch Co., 330 ft. from E line, 990 ft. from S line of Sur. No. 208 .....Rigging up.
Magnolia Pet. Co.'s No. 3 Lundell, 330 ft. from S line, 150 ft. from W line of SE of Sur. No. 60.....T.D. 2,250 ft.; testing.
Navarro Oil Co.'s No. 27 Hahl, 1,650 ft. from S and E lines of W½ of Sur. No. 360 .....T.D. 2,275 ft.; coring.
Russ Pet. Co.'s No. 3 Riley, 965 ft. from S, 150 ft. to E lines of SW of NW of Sur. No. 46 .....T.D. 700 ft.; drlg.

Rodney DeLange's No. 2 Lundell, 660 ft. from E line, 430 ft. from S line of SE SW of Sur. No. 60 ..... Rigging up.
Reynosa Oil Corp.'s No. 6-A Duval Ranch Co., 330 ft. from N and E lines of N½ of SW of Sur. No. 362.. Rigging up.
Reynosa Oil Co.'s No. 2-D Duval County Ranch Co., 330 ft. from S and W lines of S½ SW Sur. No. 362.. T.D. 2,299 ft.; set csg.; W.O.C.
Sun Oil Co.'s No. 9 Weiderkehr, 990 ft. from N line, 300 ft. from E line of Sur. No. 359..... T.D. 2,299 ft.; set csg.; W.O.C.
Sun Oil Co.'s No. 13 Weiderkehr, 1,650 ft. from N line, 330 ft. from E line in Sur. No. 361..... T.D. 2,252 ft.; set csg.; W.O.C.
Sun Oil Co.'s No. 12 Weiderkehr, 990 ft. from E line, 330 ft. from N line of Sur. No. 361 ..... T.D. 2,290 ft.; set csg.; W.O.C.
Texas Co.'s No. 6 W. C. Riggs, 330 ft. from S and W lines of E½ NW of Sur. No. 46 ..... T.D. 2,295 ft.; testing.
Texas Co.'s No. 1 fee, 990 ft. from N line, 330 ft. from W line of SE of Sur. No. 362 ..... T.D. 2,295 ft.; comp. 50 bbls. hrly.

SOUTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Humble O. & R. Co.'s No. 13 Paul White, 2,300 ft. from E line, 300 ft. from N line of Sur. No. 249..... T.D. 2,224 ft.; set csg.; W.O.C.
Humble O. & R. Co.'s No. 12 Paul White, 1,650 ft. from S and E lines of Sur. No. 249 ..... T.D. 2,288 ft.; flowing by heads; small well.

S. R. C. POOL—DUVAL COUNTY

S. R. C. Oil Co.'s No. 10 Duval County Ranch Co., 100 ft. from S line, 1,153 ft. from E line of Sur. No. 295. T.D. 70 ft.; waiting for wtr.

NEW BERLIN POOL—GUADALUPE COUNTY

J. A. Harper's No. 2 Rosenbrock, 660 ft. SW of No. 1... T.D. 235 ft; set 10-in. csg.; W.O.C.

JACOBS POOL—McMULLEN COUNTY

Loma Oil Co.'s No. 18-A Jacobs, 460 ft. S of No. 11, in W. H. Jacobs Sur. No. 8 ..... Derrick.
Longhorn Oil Co.'s No. 3-A Lark, 450 ft. from N line, 150 ft. from W line of Blk. 14, of Subd. of Lark land in E. W. B. Scrugham Sur. ..... T.D. 1,030 ft.; C.O.
Kennon & Stephenson's No. 1 Lark, 150 ft. from N and W lines of Blk. 15, subd. of Lark land in E. W. B. Scrugham Sur. ..... T.D. 1,033 ft.; set csg.; W.O.C.

CUEVITAS POOL—STARR COUNTY

Mims, Hamill & Evans' No. 1 M. Guerra, 330 ft. from E line, 330 ft. from S line of Share M-10, in Las Cuevitas grant ..... Spudded in.
Wm. McGinley's No. 2 Guerra, 330 ft. from SW and NW lines of Blk. 22 of McGinley Subd. of Porcion No. 110 ..... Rigging up.
Sun Oil Co.'s No. 9-A Guerra, 4,620 ft. from NW line, 660 ft. from SW line of Share H-14-B of Cuevitas grant ..... Derrick.
Sun Oil Co.'s No. 24-B Guerra, 1,320 ft. from SW line, 660 ft. from SE line of Share H-14-B, in Las Cuevitas grant ..... T.D. 2,269 ft.; comp. 400 bbls. dly.
Sun Oil Co.'s No. 1-D Guerra, 6,353 ft. from NE line, 2,300 ft. from SE line of La Sacatosa grant ..... Rigging up.
Sun Oil Co.'s No. 6-A Guerra, 1,320 ft. E of No. 7-A and on 1,360-ac. tract, or 1,980 ft. to NW, 3,300 ft. to SW of No. 14-B in Las Cuevitas grant ..... T.D. 3,460 ft.; abd.; dry.

CAROLINA-TEXAS POOL—WEBB COUNTY

Carolina-Texas Oil & Gas Trust's No. 11 Benavides, 150 ft. from S line, 600 ft. from W line of Blk. 13 in Sur. No. 683 ..... T.D. 2,120 ft.; coring.

BYERSVILLE POOL—WILLIAMSON COUNTY

Fritz Fuch's No. 1 C. W. Johnson, 600 ft. from SE line, 700 ft. from NE line of tract in P. Cartwright Sur. ..... Derrick.
Taylor Prod. Co.'s No. 2 Zeischang, 250 ft. N of creek, 200 ft. from NE line of tract in H. White Sur. T.D. 1,130 ft.; abd.; dry.

ESCOBAS POOL—ZAPATA COUNTY

Texas Co.'s No. 34 Whitehead, 2,686 ft. from SE line, 19,930 ft. from SW line of Cerrito Blanco Sur. .... T.D. 1,202 ft.; comp. 60 bbls.
W. E. West and J. P. Perry's No. 1 Garcia, 1,200 ft. from NW line, 200 ft. from NE line of Share 3 of Comitas grant ..... Spudded in.

JENNINGS POOL—ZAPATA COUNTY

United Prod. Corp.'s No. 11 Measles, 2,483 ft. from NW line, 16,500 ft. from SW line of Cerrito Blanco grant ..... T.D. 4,377 ft.; drlg.

MARTINEZ POOL—ZAPATA COUNTY

W. R. Shankle and Wm. McGinley's No. 1 Manuel T. Heirs, 330 ft. from E line, 300 ft. from S line of Blk. 16 in Sur. No. 411 ..... T.D. 1,647 ft.; set csg.; W.O.C.; showed gas.
United Prod. Co.'s No. 2 Henne-Winch, 660 ft. from S line, 150 ft. from W line of Blk. 8, Sur. No. 286.... T.D. 1,707 ft.; set csg.; W.O.C.

Wildcat Operations in Louisiana-Arkansas

(Continued from Page 53)

Gerhig Oil Co.'s No. 1 Burkett, 330 ft. S and W, NE cor. SE SE Sec. 9-9-13 ..... Set 6-in. 1,500 ft.
Helena O. & G. Co.'s No. 2 Chambliss, 330 ft. S and E, NW cor. SW NE Sec. 30-9-13 ..... Drlg. 1,830 ft.
Helena O. & G. Co.'s No. 1 C. E. Pugh, 330 ft. N and E, SW cor. NE Sec. 19-9-13 ..... Drlg. 1,826 ft.
Helena O. & G. Co.'s No. 1 J. W. Tatum, 330 ft. N and W, SE cor. NE SE Sec. 9-9-13 ..... Testing 1,546 ft.
Helena O. & G. Co.'s No. 1 E. K. Harris, 990 ft. S and W, C Sec. 10-9-13 ..... Testing 1,955 ft.
Mamie S. Hammond's No. 1 Patrick, 330 ft. N, 2,310 ft. W, SE cor. Sec. 1-9-13 ..... T.A. 3,235 ft.
R. P. Holland et al's No. 1 A. J. Burkett, 990 ft. N, 330 ft. W of C, Sec. 10-9-13 ..... Drlg. 800 ft.
Lula M. Layton's No. 1 Henderson, 330 ft. N, 990 ft. E. C. Sec. 29-9-13 ..... Drlg. 1,320 ft.
H. C. Lessinger's No. 1 Bowman-Hicks Lbr. Co., 333 ft. S and E, NW cor. SW Sec. 13-9-13 ..... Coring 3,233 ft.
Miles & Strickland's No. 1 Ross & Son, 150 ft. N, 900 ft. E, SW cor. NW Sec. 10-9-13 ..... Rigging up.
Joe Modisette's No. 4 Frost Lumber Co., 990 ft. W, 330 ft. from C Sec. 21-9-13 ..... W.O.S.R. 1,980 ft.
John W. Moffett's No. 1 Logan Oil Co., Sec. 3-9-13 ... Drlg. 1,676 ft.
L. L. Posey's No. 1 A. J. Burkett, 330 ft. N and W, SE cor. S½ NE NW Sec. 10-9-13 ..... Set 6⅝-in. 1,470 ft.; drlg. 1,790 ft.
J. E. Sedbury's No. 1 E. K. Harris, 990 ft. W, 330 ft. S, C Sec. 10-9-13 ..... Comp. flowing 500 bbls.; 1,852 ft.
Tex.-La.-Ark. Oil Co.'s No. 1 Bowman-Hicks, 295 ft. N, 440 ft. E, SW cor. SW NW Sec. 22-9-13..... ...Drlg. 1,800 ft.
Homer Tyson's No. 1 G. W. Hough, 330 ft. S and E, NW cor. SW NW Sec. 31-9-13 ..... S.D. 40 ft.
Windsor Oil Co.'s No. 2 Barr, 330 ft. N and E, SW cor. NW Sec. 15-9-13 ..... Location.

SABINE—ZWOLLE

H. C. Maulding's No. 1 Alford, 330 ft. S and W, NE cor. NW NW Sec. 18-7-10 ..... Derrick (corrected).
H. C. Maulding's No. 1 Van Vickhaven, 330 ft. N and W, SE cor. NE Sec. 8-7-11 ..... Set 10-in. 40 ft.

WEBSTER PARISH

J. P. Evans' No. 1 Burson, 350 ft. N and E SW cor. NW SE Sec. 27-18-9 ..... Drlg. 3,515 ft.

Arkansas

COLUMBIA COUNTY

C. W. Alworth et al's No. 1 W. D. King, SW cor. SE SW Sec. 16-17-20 ..... Drlg. 2,635 ft.
C. F. Whittaker's No. 1 Garner, C SW NE Sec. 11-15-20.. Set 6-in. 3,083 ft.; T.D. 3,093 ft.

JEFFERSON COUNTY

J. R. Elliott's No. 1 B. V. Nevin, 440 ft. N and E, SW cor. SW NW Sec. 36-4-10 ..... Rigging up.

HEMPSTEAD COUNTY

A. H. Bagnelle's No. 1 Trattner & Rhinehart, Sec. 2-13-26 S.D. 1,965 ft.
Kentucky O. & G. Co.'s No. 1 Leslie, NW cor. SW NW Sec. 21-9-24 ..... Derrick.

LAFAYETTE COUNTY

George W. Harper's No. 2 Bodcaw, 150 ft. S, 550 ft. E NW cor. SW NW Sec. 16-15-22 ..... S.D. 1,159 ft.

LITTLE RIVER COUNTY

M. E. Sanderson's No. 1 Hale, Sec. 23-12-29 ..... S.D. 1,851 ft.

LONOKE COUNTY

Joe D. Strahan's No. 1 Hardin, 300 ft. S and E, NW cor. NW NW Sec. 18-2n-7 ..... Reaming 650 ft.

MILLER COUNTY

Duluth-Ark. Oil Co.'s No. 2 Beck, 330 ft. S and E, NW cor. SE SW Sec. 34-15-26 ..... Recmtng. 6-in. 2,804 ft.

OUACHITA COUNTY

F. G. Harrell's No. 1 Poindexter, 330 ft. S and E NW cor. Sec. 35-16-18 ..... Arranging to set 7-in. 2,200 ft; T. D. 2,340 ft.
J. D. Reynolds' No. 1 Snow Hill Baptist Church, 525 ft. E, 115 ft. S, NW cor. SE SW Sec. 28-15-15..... Arranging to run tubing 2,040 ft.

POINSETT COUNTY

Ark. State O. & G. Co.'s No. 1 fee, C NE NE Sec. 13-11-3e ..... Derrick.

UNION COUNTY

E. R. Henderson's No. 2 J. H. Ogden, 330 ft. S and E, NW cor. SW SE Sec. 32-18-14 ..... W.O.S.R. 2,208 ft.
Marine Oil Co.'s No. 2 Union Sawmill Co., 330 ft. S and E, NW cor. SE SE Sec. 3-18-13 ..... Drlg. 2,996 ft.
Chas. Steele's No. 1 J. B. Combs, 150 ft. N, 185 ft. W, SE cor. SW NW Sec. 25-18-16 ..... Rigging up.

WOODRUFF COUNTY

John Wadkins' No. 1 Rosser, Sec. 7-5n-2w ..... S.D. 1,300 ft.

Mississippi

LAMAR COUNTY

Lamar Oil Co.'s No. 1 Scott, NE NE Sec. 12-2n-14..... S.D. 3,010 ft.

MADISON COUNTY

H. A. Wilson, tr.'s No. 1 Copex, 200 ft. N and E, SW cor. SW NE Sec. 24-9-3e ..... S.D. 1,950 ft.

NEWTON COUNTY

Bob Dalton et al's No. 2 Majura, SE SE Sec. 25-6-11 Drlg. 2,950 ft.

RANKIN COUNTY

Hill Bros. and Cleve Love's No. 1 Lancaster, C SW NW Sec. 27-5-3e ..... Rigging up.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, Sec. 34-3n-9e, SW cor. SW SE ..... Moving in rig.

WARREN COUNTY

Orbet Drlg. Co.'s No. 1 R. L. Parker, 300 ft. E, CWL, Sec. 14-14-1e ..... Drlg. 1,520 ft.

Louisiana-Arkansas Proven Areas

North Louisiana

BOSSIER PARISH

Company, well, farm name, section and block—	Remarks:
United Gas Public Service Co.'s No. 1 Skannell unit, 1,317 ft. N, 1,274 ft. E, SW cor. Sec. 13-17-13.....	Blowing 40,000,000 ft. gas 3,320 ft.

CADDO PARISH—BETHANY

Calatex O. & G. Co.'s No. 1 Taylor, SW SE Sec. 34-17-16. Testing 2,892 ft.

CADDO—RODESSA

R. W. Norton's No. 1-B J. B. French, 660 ft. S and E, NW cor., Sec. 34-23-16 ..... Set 13-in. 261 ft.; drlg. 2,050 ft.

CADDO—PINE ISLAND

Ark.-La.-Tex. O. & G. Co.'s No. 1 Simon, 330 ft. N and E, SW cor. NW Sec. 15-20-15 ..... S.D. 41 ft.

CADDO—HOSSTON

C. D. Whittaker et al's No. 2 Barker, 1,150 ft. N, 1,900 ft. E, SW cor. Sec. 21-22-15 ..... Drlg. 1,010 ft.

DESOTO PARISH

Tom McKinney et al's No. 1 J. M. Nabors, 330 ft. N and E, SW cor. SE SE Sec. 26-12-13 ..... Rig up.

MOREHOUSE PARISH

United Carbon Co.'s No. 1 Montgomery, 1,339 ft. S, 2,268 ft. E of C Sec. 9-21-5l ..... Set 12-in. 177 ft.; drlg. 1,575 ft.

SABINE PARISH—ZWOLLE

Century Carbon Co.'s No. 1 Breard, 238 ft. S, 455 ft. E, NW cor. Sec. 15-18-4e ..... Set 10-in. 134 ft.
J. C. Chandler's No. 1 Raina, SW cor. NW Sec. 14-7-11. S.D. 2,508 ft.
Crescent Drlg. Co.'s No. 1-A Billbray, 330 ft. S and E, NW cor. NW NE Sec. 32-8-11 ..... Using acid 2,525 ft.
Dyer et al's No. 1 McCollister, 330 ft. S and E, NW cor. SW NE Sec. 24-7-12 ..... Derrick.
Investors Prod. Co.'s No. 1 S. J. Williams, 600 ft. E and S, NW cor. Sec. 24-7-11 ..... Pumping 15 bbls. 2,665 ft.
Magnolia Pet. Co.'s No. 1 Semon Lilly, NE cor. SE NW Sec. 8-7-11 ..... Rigging up.
Magnolia Pet. Co.'s No. 2 Gindratt, 330 ft. N, 330 ft. E, SW cor. SE Sec. 30-8-11 ..... T.A. 2,485 ft.
Pelican Nat. Gas Co.'s No. 26 La. Long Leaf, SW NW Sec. 29-8-11 ..... Set 10-in. 60 ft.; drlg. 720 ft.
Pelican Nat. Gas Co.'s No. 25 La. Long Leaf, 584 ft. S, 300 ft. E, NW cor. NE NE Sec. 31-8-11 ..... S.D. 2,600 ft.
Pelican Nat. Gas Co.'s No. 24 La. Long Leaf Lbr. Co., 330 ft. N and E, SW cor. Sec. 5-7-11..... Bailed dry; W.O. 2,760 ft.
Pelican Nat. Gas Co.'s No. 10 Sabine Lbr. Co., 330 ft. S and W NE cor. SE NE Sec. 7-7-11 ..... Set 7-in. 2,308 ft.
Pugh-Hickman's No. 8 Stille, 330 ft. S and E, NW cor. Sec. 16-7-11 ..... Set 10-in. 40 ft.
Rig Oil Co.'s No. 1 Walden, 330 ft. N and E, SW cor. NW NE Sec. 28-8-11 ..... Derrick.
C. T. Ruffin's No. 1 Sabine Lbr. Co., 330 ft. N, 80 ft. W, SE cor. NE NE Sec. 7-7-11 ..... Testing 2,389 ft.
C. T. Ruffin's No. 1 McNeely, 510 ft. S, 330 ft. W, NE cor. NE NE Sec. 7-7-11 ..... T.A. 2,550 ft.
L. J. Tillery's No. 1 Sabine Lbr. Co., 300 ft. S, 320 ft. W, NE cor. Lot 3, La. Nava grant, Sec. 5-7-11..... Rigged up and S.D.
C. H. Tuttle's No. 4 Byrd, 300 ft. S, 320 ft. E, NW cor. NW NW Sec. 7-7-10 ..... Dry and abd. 2,806 ft.

UNION COUNTY

Southern Carbon Co.'s No. 63 fee, 660 ft. S, 660 ft. E of center Sec. 7-20-4e ..... Set 6-in. 2,099 ft.

Mississippi

HINDS COUNTY

B. B. Jones' No. 1 McRae, 530 ft. W, 540 ft. N, SE cor. SW NW Sec. 24-7n-1w ..... Drlg. 1,890 ft.
B. B. Jones' No. 1 Stone, 500 ft. S, 100 ft. E, NW cor. Sec. 15-5n-3e ..... Drlg. wtr. well.
Love & Lancaster's No. 2 Elton plantation, NE Sec. 9-4-1e ..... S.D. 5 ft.
Meredith Trading Co.'s No. 1 Nelson et al, 630 ft. E, 330 ft. S, NW cor. SW SE Sec. 24-6-1e ..... S.D. for csg. 2,431 ft.

RANKIN COUNTY

Ferguson, Fuller & Metz' No. 1 Ammons, 350 ft. E and S, NW cor. NW NW Sec. 35-3n-3e ..... Rigged up.
Cleve Love et al's No. 1 Thomas, SW Sec. 10-4-1e..... Drlg. 3,440 ft.

EAST TEXAS (Border Counties)

MARION COUNTY

Perry et al's No. 1 E. B. Colgin, 300 ft. N and E, SW cor. Martin Noll Sur. ..... S.D. 1,460 ft.

PANOLA COUNTY

W. H. Nichols et al's No. 1 S. W. Ray, 330 ft. S of N line, 330 ft. W of E line, W. P. Culver Sur. ..... Fishing 1,850 ft.
M. H. Robbins et al's No. 1 Alsee Williams, 165 ft. N and E, SW cor. 30-ac. tract in Wiaale Mann Sur. .. Coring 2,099 ft.
C. R. Obermeyer et al's No. 1 T. J. Wooten, P. Martin Sur. ..... S.D. 2,110 ft.

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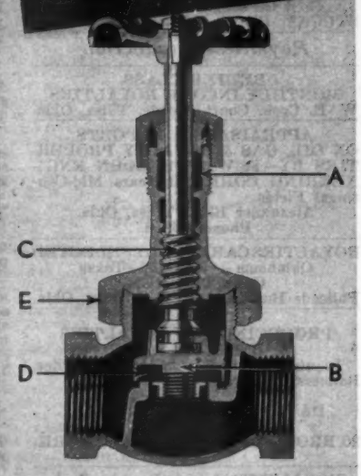

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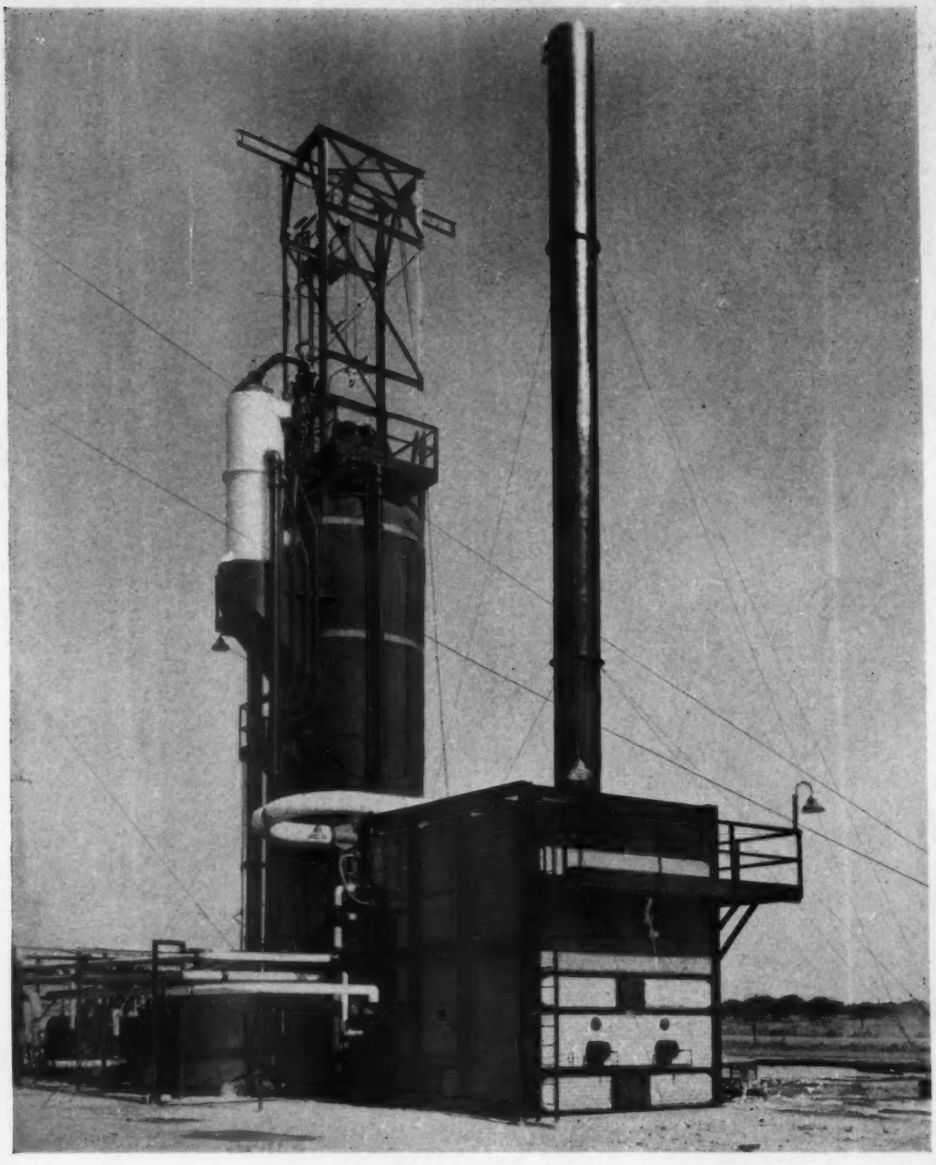

Vacuum Distillation

Among the many vacuum distillation units designed and constructed within the past year by Foster Wheeler is the thousand barrel per day road oil unit shown above. This tube still charges reduced crude which is fractionated into light distillate, heavy distillate and road oil or asphalt: road oil being the principal article of manufacture. The unit is designed to run at high efficiency, producing finished products in a single operation.

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